ROCKLAND COUNTY RADIOLOGICAL EMERGENCY RESPONSE PLAN

INDIAN POINT NUCLEAR POWER STATION

Rockland County Radiological Emergency Preparedness Plan

PREPARED TO PROTECT

July 2008

Control Copy #

Office of Fire and Emergency Services

(NOT USED)

ROCKLAND COUNTY

RADIOLOGICAL EMERGENCY

PREPAREDNESS PLAN

Office of Fire and Emergency Services
35 Firemen's Memorial Drive
Pomona, New York 10970

Revised 07/08

(NOT USED)

ROCKLAND COUNTY

RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

PART II

RESPONSE AGENCY PROCEDURES

ROCKLAND COUNTY

RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

TABLE OF CONTENTS

(NOT USED)

PART I

SECTION I - INTRODUCTION

A. SITUATION

The County of Rockland could be faced with any one or a combination of a number of emergency situations that would pose a threat to the lives, health or safety of the County's residents. Among those potential hazards are the nuclear power generating facilities located at Indian Point in Westchester County, 0.8 miles across the Hudson River from Tompkins Cove in the Town of Stony Point. These facilities have in effect many rigidly enforced safety features and programs associated with the handling of radioactive materials. It is nevertheless possible that a radioactive release incident, seriously affecting public health and safety in Rockland County, could occur. Therefore, it is both prudent and appropriate to plan for such a contingency through the effective use of the resources of the County and its political jurisdictions in order to ensure the health and safety of the public and is in accordance with Federal Government Regulations, Title 10, Part 50, and Title 44, Part 350. These resources can be supplemented as necessary by assistance from the State and Federal governments.

1. Rockland County Description

   a. Rockland County Locale

   The Indian Point Energy Center generating facilities are located on the east bank of the Hudson River in the Village of Buchanan, Westchester County. The Indian Point Energy Center is 0.8 miles across the Hudson River from Tompkins Cove in the Town of Stony Point, Rockland County.

   The area within 10 miles of the Indian Point Energy Center is located within four counties: 37 percent in Westchester, 27 percent in Rockland, 21 percent in Orange, and 15 percent in Putnam County. The Hudson River divides the four counties, with Orange and Rockland Counties and Putnam and Westchester Counties bordering the western and eastern banks respectively.

   Rockland County is situated on the west bank of the Hudson River. Its geographical center is 33 miles north of the Manhattan business district in New York City. The Hudson River Valley lies to the north of Rockland, with Westchester County across the Hudson to the east, northern New Jersey to the south, and Orange County to the west.

   Rockland County is part of a 22-County region, which forms the New York Metropolitan Area. Rockland's 176 square mile land area consists mostly of public parks, residential, recreation and undeveloped areas.

The major industrial and commercial areas are situated along Route 9W in the Town of Haverstraw and along the Route 59 and Route 303 corridors south of the 10-mile Emergency Planning Zone (EPZ).

A map showing that area of Rockland County within ten (10) miles of Indian Point is presented in Appendix A.

b. Rockland County Population

The northern half of Rockland County is situated within the EPZ of Indian Point with a population of approximately 118,197 (refer to Appendix B). The entire towns of Stony Point, Haverstraw, and large portions of the towns of Ramapo and Clarkstown are within this planning zone. The total Rockland County population is distributed among five towns.

The population data indicates that the county area within 5 miles of Indian Point is a low population density area with the exception of the southern sector villages of Haverstraw and West Haverstraw. Approximately eighty percent of the total county population within the ten mile emergency planning zone is five to ten miles from Indian Point in the southern sector of the county.

c. Special Facilities and Institutions

Rockland County special facilities, aside from schools, camps, and nursing homes within the Indian Point Energy Center 10-mile Emergency Planning Zone, include a hospital, a health center, a park system and the county jail.

A listing of all the county special facilities within ten (10) miles of the Indian Point Energy Center is presented in Procedure SFC-1, Special Facilities Coordinator Emergency Response Actions and Procedure SCH-1, Schools Emergency Response Actions.

2. Indian Point Energy Center Description

a. Site Location

The Indian Point Energy Center (IPEC) is located on the east bank of the Hudson River about 24 miles north of New York City, at Indian Point, Village of Buchanan in upper Westchester County, New York State. The station is about 0.8 miles southwest of the City of Peekskill; 8.3 miles south of West Point; and 2.3 miles north of Montrose point. Figures I-1 and I-2 show the location of Indian Point and its environs within ten and fifty miles respectively. Figure I-3 indicates major features near the site.

The Indian Point Site is accessible by several roads in the Village of Buchanan. Broadway, a two-lane paved road, borders the site to the

east and is the primary access road to the site. The village roads of Bleakley Avenue and First Street enter Broadway across from the eastern site boundary. Additionally, a paved road links the eastern boundary of the site to the plants.

b. Site Authority and Control

The Indian Point Site is operated by the Nuclear Facility Operator (NFO) which is Entergy Nuclear Northeast. Unit 2 and 3 are currently operating. Unit 1 is not in operation and has been defueled. The Indian Point site is shown on Figure I-4.

Entergy Nuclear Northeast has the authority to determine and control all activities occurring within the site boundary. This includes the exclusion or removal of personnel and property from the site.

There are no residences, public highways or railroads within the site boundary.

c. Regional Topography

The topography within 10 miles of Indian Point is characterized by elevations rising to over 1000 feet from 200 around the Hudson River Valley, the Annsville Creek Drainage System Valley, the Croton River Valley and New Croton Reservoir and the lowlands near and west of Hackensack, De Forest, Congers and Rockland Lake.

The Hudson River Valley is less than 2 miles wide from Cold Spring to Annsville and follows the river. The river flows south from Cold Spring then turns to the southwest just south of the Bear Mountain Bridge. The Annsville Valley joins the Hudson about two miles north of Indian Point from the northeast. Manitou Mountain is to the north of this intersection, Jacobs Hill to the east and Dunderberg Mountain to the west. From there, the Hudson Valley widens to the south away from the river. The valley is about 3 miles wide at Indian Point where it is bounded on the west by Bald and Buckberg Mountains and on the east by the Blue and Spitzenberg Mountains. The river turns to the southwest, flows past Indian Point, turns to the south southeast and widens into Haverstraw Bay before narrowing again and exiting south of Ossining. At 4 miles south of Indian Point, the valley is about 5 miles wide. The Croton Valley joins from the northeast. The Hudson Valley narrows and exits with the river. Prickly Pear Mountain is to the north, Ganungs and Catamount Hills are to the east. Hook and South Mountains to the west separate the Hudson River valley from the lowland to the south.

Between 200 and 300 feet of the east wall of the Hudson Valley is broken by the irregular drainage patterns between Blue Mountain and

Prickley Pear Hill. The west wall is broken between 300 and 400 feet by the valleys with Minisceongo Creek and Cedar Pond.

d. Plant Description

The Indian Point Energy Center (IPEC) is approximately 239 acres in size and contains two operating pressurized water reactors (PWR), Unit 2 (3,216 MWt, 1,066 MWe), and Unit 3 (3,180 MWt, 1,075 MWe). The two operating plants were designed by Westinghouse Electric Corporation.

The Indian Point pressurized water nuclear power plants each contain a reactor vessel with four loops of pressurized water and four pumps within the containment structure to remove the heat energy from the reactor core. This energy is transferred in the steam generator to the secondary water system, generating steam, which leaves containment to drive a turbine generator set and produce electric power. This is shown in Figure I-5.

The nature of the uranium fuel in the reactor core at the Indian Point Energy Center (IPEC) precludes the possibility of a nuclear explosion (a weapon-type detonation). Other types of accidents are possible. These accidents, should they occur, would be contained within the reactor containment building. Nonetheless, an accidental release of radioactive materials to the off-site environment remains a remote possibility. If such a release should occur, the radioactive materials released would be comprised primarily of radioactive iodine, xenon, and krypton gases.

B. PURPOSE

The purpose of this plan is to mitigate the effects of a radiological emergency that may be caused by an offsite release of radiation from the Indian Point Energy Center. It provides for preparedness and response activities to lessen or eliminate damage to life and property within the 10-mile emergency-planning zone. It also provides for recovery to normal conditions as quickly as possible.

This plan assigns duties and responsibilities to various local, private, public and volunteer agencies, which have the capabilities to successfully protect life and property in the affected area.

The plan makes apparent the need for a coordinated planning and response effort by local officials to alleviate a radiological emergency situation. It outlines a course of action to satisfy those coordinated response efforts, along with methods of obtaining supplemental assistance from other sources.

The plan endorses the use of the Incident Command System (ICS) as developed by the National Incident Management System (NIMS) and complies with Homeland

Security Presidential Directive 5 (HSPD-5) and the National Response Plan (NRP). County response personnel operating at the EOC will be organized by ICS function. The EOC organization may be modified by the Incident Commander depending upon the nature of the emergency and the flexibility provided by NIMS.

C. SCOPE

The plan provides for the early notification of responsible officials and agencies, the evaluation of the severity of the situation, the initiation of protective actions to safeguard life, health and property, the coordination of assistance furnished by all levels of government and the interface with all outside agencies to accomplish the purpose of the plan.

Federal guidance for the preparation of radiological emergency response plans is provided in the document entitled, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (NUREG-0654/FEMA REP-1 Rev.1). This document is issued jointly by the Nuclear Regulatory Commission (NRC) and the Department of Homeland Security (DHS). It establishes 16 planning standards, 15 of which specify items to be addressed in local radiological emergency response plans. Items to be addressed by state and licensee response plans are similarly indicated.

Although this plan follows the federal guidance and evaluation criteria specific to nuclear power plants, the emphasis is placed on the County's ability to respond realistically and effectively to a radiological emergency.

1. Emergency Planning Zones

Within the scope of the plan, there are two Emergency Planning Zones (EPZs) which must be addressed. These zones are defined as the areas for which planning is needed to assure that prompt and effective actions can be taken to protect the public in the event of an accident. They have been designed in size to accommodate the need for actions in regard to the potential degree of radiological exposure. The first is the Plume Exposure Pathway and the second is the Ingestion Exposure Pathway.

The Plume Exposure Pathway is that area around the reactor, which is within approximately 10 miles of the Indian Point site. Although the radius for an EPZ implies a circular area, the actual shape depends upon the physical and demographic features within that zone. The guidance in NUREG-0654/ FEMA-REP-1 Rev. 1 states "The principal exposure sources from this pathway are: (a) whole body external exposure to gamma radiation from the plume and from deposited material; and (b) inhalation exposure from the passing radioactive plume." The time of potential exposure could range in length from hours to days.

Within the approximate 10-mile Emergency Planning Zone (EPZ) in Rockland County municipal areas, generally bounded by streets or other recognized boundaries, have been identified. These are referred to as Planning Areas. The delineation of these Areas is based on the following criteria:

* Major population areas have been preserved or grouped.

* The boundary definitions have been simplified as much as possible (by using, e.g., political and/or municipal divisions or major roads) for purposes of clarity.

* Important topographic features, such as rivers, hills, and valleys have been utilized as boundaries when practical.

* The size and orientation of the planning areas are adequate to respond to various levels of accident severity.

* The effects of meteorological conditions and patterns which can be responded to have been taken into consideration.

Protective action recommendations for the general public will be taken by reference to the respective Area (refer to Appendix A). If it is decided that any portion of an Area requires a protective action, then the entire Area will be involved in this protective action.

The Ingestion Exposure Pathway is that area within a radius of approximately 50 miles, including the 10-mile EPZ, from the nuclear reactor site. The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk, fresh vegetables, or fish. The time of potential exposure could range in length from hours to months. The State of New York has the primary responsibility for developing emergency plans for the Ingestion Exposure Pathway.

The concept of these zones and their respective sizes represent a judgment on the kind and extent of planning which must be done and on the appropriate types of response activities needed for the effective protection of the public health. In a given emergency, protective actions might be restricted to a small part of either or both planning zones.

The rationale for determining the two planning zones and defining their parameters can be found in NUREG-0396/EPA 520/1-78-016 entitled, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants."

2. Emergency Classifications

A standardized method has been established by the Nuclear Regulatory Commission for the NFO to classify the severity of an incident at a nuclear plant. These classifications have been adopted by all local, State and Federal governments and are used by Rockland County.

The NRC requires that when an initiating condition for any of the four emergency classes exists, the Nuclear Facility Operator provide early and prompt notification to County, State and Federal officials. The following emergency classes are used for such notification:

a.	Notification of Unusual Event (NUE)	Events are in progress or have occurred, which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.
b.	Alert	Events are in progress or have occurred, which involve an actual or potential substantial degradation in the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels (Refer to Section III.B.6).
c.	Site Area Emergency (SAE)	Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed EPA Protection Guideline exposure levels except near the site boundary.
d.	General Emergency (GE)	Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

D. CONCEPT OF OPERATIONS

A Rockland County Radiological Response Organization has been developed to provide a response to a radiological emergency at the Indian Point Energy Center to effectively protect the health and safety of the public. Its objective is to make timely and accurate protective action recommendations to the public and

effectively implement those actions, as necessary. The Radiological Emergency Preparedness Plan calls for the following sequence of events for effective response to an emergency:

1. Initial Notification And Mobilization
   To begin a response to an emergency, the Radiological Response Organization must be notified and mobilized. Notification and Activation is described in Section III.B.2. Emergency communications to notify and mobilize the Radiological Response Organization are described in Section III.B.4.

2. Accident Assessment
   To determine if protective actions must be taken for the public, an "accident assessment" must be conducted. In the first step of the assessment, plant and weather conditions are evaluated. Radiological monitoring teams would be sent out to measure radiation levels. These teams will pass on data to the EOC, where it will be evaluated along with information from the plant. The evaluation consists of calculations to predict the effects of a radiation release on the public in the 10-mile EPZ. These predictions will be compared to Environmental Protection Agency's Protective Action Guides (PAGs) for emergency radiation levels. Once the predicted effects are compared to the PAGs, a decision, which incorporates other pertinent decision-making information such as available County resources, must be made on what protective actions must be taken. Radiological Assessment and Evaluation of Protective Action Response Options is described in Section III.B.6.

3. Protective Actions
   The Radiological Emergency Preparedness Plan contains procedures for determining appropriate protective action(s) based on the comparisons discussed above. These actions, which are described in Section III.B.8, include:

   Initial Precautionary Operations
   Shelter-in-Place of Selected/Facilities/Populations
   Shelter-in-Place
   General Evacuation
   Isolation of Ingestion Pathways and Sources

   The County Executive/Emergency Director may recommend shelter in place, or staying indoors, for designated Areas. Public notification of the need to shelter-in-place will be accomplished through use of sirens and the Emergency Alert System. Shelter-in-place actions may be terminated when the likelihood of exposure to radiation levels in excess of the PAGs no longer exists.

   If the County Executive/Emergency Director called for the evacuation of any or all Areas within the County, the public will be notified by sirens, tone alert

radios, route alerting, reverse 911 automated calling systems, and messages on the Emergency Alert System. Public Notification is described in Section III.B.5.

Traffic control points will be established and potential impediments to evacuation will be removed by tow trucks or other heavy equipment. (Refer to Section III.B.8)

People without transportation will be evacuated by buses that will follow the routes identified in the public information brochure, which is distributed to the public living within the 10-mile EPZ. The evacuation of Special Facilities such as nursing homes and hospitals is also coordinated by the Radiological Response Organization. (Refer to Section III.B.8)

Schools within the 10-mile EPZ will be directed to follow one of the following alternatives depending on the level of emergency and expected conditions: continue normal school operation until end of day, close schools for the duration of the emergency, shelter children in the school, evacuate children to pre-designated School Reception Centers or relocate children to another facility, if necessary, prior to a release. (Refer to Section III.B.8)

The evacuation of Non-Institutionalized Mobility Impaired individuals is also coordinated by the Radiological Response Organization. The County has developed a list of these people from mail-in cards included in the public information brochure. (Refer to Section III.B.8)

Public Reception Centers will be established to provide registration and other assistance, monitoring and decontamination of evacuees should these activities be required and distribution of potassium iodide, if requested. Congregate Care Centers will also be established to provide temporary housing, food, and first aid to displaced evacuees. (Refer to Section III.B.8)

4. Emergency Worker Protection

Measures will be taken to protect emergency workers from over-exposure to radiation. Each worker will have the capability to monitor his/her exposure through the proper use of personal dosimetry. An Emergency Worker Personnel Monitoring Center will be established to monitor and decontaminate a worker should these activities be required. (Refer to Section III.B.7)

5. Public Education/Information (Refer to Sections III.B.3 and III.B.5)

Effective response to a radiological emergency requires that the public be informed about procedures to be followed and actions that would be taken. Important to the overall effectiveness of the plan is public knowledge and understanding both before and during a radiological emergency at the Indian Point Energy Center. To accomplish this, the County has developed a complete public information program for the public. This program involves:

a. Advance Information in Case of an Emergency at the Indian Point Energy Center
Rockland County disseminates public information to residents, special facilities, and transients in the 10-mile EPZ on an annual basis through public information brochures, telephone book inserts, stickers, periodic news releases, the County Radio System 1640 AM and the County Government Website www.rocklandgov.com.

b. Emergency Information
The County will advise the public of the status of an Indian Point emergency and any recommended protective actions using the Emergency Alert System. Information will focus on the nature of the emergency and the recommended response, if any. The release of information will be coordinated with appropriate Federal, State, and County authorities and the Nuclear Facility Operator.

E. GENERAL RESPONSIBILITIES

Radiological emergency responsibilities are shared by all levels of government and the Nuclear Facility Operator. These responsibilities will be met at the local or county level until such time that the County's resources have been exhausted. At that point, in addition to technical guidance and evaluation, the County will request State and Federal Government resource assistance.

The person responsible for the County's response is called the Emergency Coordinator. The Emergency Coordinator at any time has the authority to declare a "local state of emergency." This provides the Coordinator with the command of all county and local resources. Should the seriousness of the emergency warrant it, the Coordinator has the authority to request the Governor to make a "State Emergency Declaration," which would make readily available the full resources of the State of New York. Upon declaration of the "State Disaster Emergency," Rockland County becomes an agent of the State's efforts to mitigate the effect the emergency may have on the health and safety of the public.

Additionally, the declaration of "State Disaster Emergency" provides the opportunity for the State to request large scale Federal Government assistance for Rockland County.

1. County Responsibility
For Rockland County to meet its responsibility to its residents in a radiological emergency, it will be necessary to perform the following operations:

a. Monitor and assess the scope and magnitude of the incident.

b. Evaluate and decide what protective action response options should be initiated.

c. Implement the appropriate protective action response option, which may be to take one or more of the following actions:

1. Initial Precautionary Operations
2. Shelter-in-Place of Selected Facilities/Populations
3. Shelter-in-Place
4. General Evacuation
5. Isolation of Ingestion Pathways and Sources

In addition to these actions, the successful implementation of this plan will depend on efficient and effective coordination with other emergency response organizations and with Orange, Putnam, and Westchester counties, Bergen County (NJ), New York State and the Nuclear Facility Operator (NFO). Rockland County's resources, such as the EOC and Communications, will be made available to support an initial federal response element. Additional resources will be provided by New York State and coordinated on a regional level.

2. State Responsibility

It is the responsibility of the State of New York to recommend and/or order protective actions, which will prevent or minimize radiation exposure to the population in the event of a radiological release incident. The State will also provide technical guidance and evaluation. Other than the extension of credit, assistance in the forms of personnel, equipment, supplies, services and facilities may be provided when local resources are insufficient to cope with the effects of the emergency. The State shall take the necessary actions to respond in those instances where a county does not have the capability to implement all or part of its Radiological Emergency Preparedness Plan. The State will assign a State Emergency Management Office (SEMO) liaison to the County Emergency Operations Center (EOC), who will coordinate the support from the New York State Disaster Preparedness Commission (NYSDPC). The State of New York has the responsibility to contact federal organizations and coordinate their response.

3. Federal Government Responsibility

If it is necessary, in the opinion of the Governor, the State will request Federal assistance. The three major federal agencies are the Nuclear Regulatory Commission (NRC) and Department of Homeland Security (DHS). The NRC is responsible for onsite technical response including monitoring, assessment, technical control, and the prediction of the impact of a radiological release. DHS is responsible for offsite non-technical response. This would include coordinating with State and local agencies and offering assistance where possible.

A third federal agency is the Department of Energy (DOE). At the direction of the State Commissioner of Health, DOE, through the Federal Radiological Emergency Response Plan, will coordinate all offsite monitoring, evaluation, assessment and reporting of the activities of participating Federal agencies.

State resources such as command posts and communications will be made available to support the federal response.

4. Nuclear Facility Operator Responsibility
The operators of the nuclear plant involved in a radiological emergency have a responsibility to offsite authorities. They have the initial responsibility for declaring and assessing an incident at the site, providing dose projections, protective action recommendations and taking immediate actions to mitigate or terminate the emergency. It is their responsibility to notify the State and local governments, the NRC and other federal agencies as necessary. In addition to notification, they are responsible for onsite and offsite monitoring and sample collection. They must remain in contact with the State and local officials for consultation and assessments of the emergency's progression.

F. AUTHORITY

1. Federal Civil Defense Act of 1950 (Public Law 920, 81st Congress) signed January 12, 1951

Established entire Civil Defense Program

2 Robert T. Stafford Disaster Relief and Emergency Assistance Act Public Law PL 93-288 As Amended by PL 100-707

Provides for Federal disaster relief.

3. Atomic Energy Act of 1954

Requires that the Nuclear Regulatory Commission grant licenses to Nuclear Facility Operators only if the health and safety of the public is adequately protected.

4. Title 10 Code of Federal Regulations

Implements the Atomic Energy Act, 10CFR50, Appendix E. Provides requirements for licensee emergency plans for onsite and offsite emergency preparedness measures for nuclear reactors, fuel cycle facilities and certain other fuel cycle and materials licensees.

5. Title 44 Code of Federal Regulations Part 350

Establishes policy and procedures for review and approval of State and local emergency plans and preparedness for responding to the offsite effects of radiological emergencies at commercial nuclear power reactors by the Federal Emergency Management Agency.

6. NUREG-0654/FEMA REP-1

Included by reference in both Titles 10 and 44, Code of Federal Regulations. Provides guidance and criteria for the preparation and evaluation of onsite and offsite radiological emergency response plans.

7. New York State Public Health Law, Section 201 and 206

Section 201 - Provides the Commissioner of Health the responsibility for public health aspects in the use of ionizing radiation.

Section 206 - Provides the Commissioner of Health broad authority for protecting the health and safety of the people of New York State.

8. New York State Sanitary Code, Part 16

Implements the Public Health Law. Requires actions to be instituted to correct and prevent unnecessary exposure due to the release of any radiation from any installation that contains radiation sources or materials that exceed acceptable dose limits.

9. New York State Executive Law, Article 2B

Provides for State and Local Natural and Man-made disaster preparedness. Establishes the existence of the Disaster Preparedness Commission and its powers and responsibilities. Provides the duties and responsibilities of local Chief Executives.

10. New York State General Municipal Law

Establishes local school districts as separate political subdivisions.

11. New York State Defense Emergency Act

Enacted in accordance with the Civil Defense Act to establish a Civil Defense Office in every county which also functions as the county disaster-coordinating agency. Provides for construction and utility of the EOC, development of communication and warning systems and the involvement of volunteer Civil Defense workers.

12. Interstate Civil Defense and Disaster Compact, Chapter 2, Section 9231 Unconsolidated Laws

Provides mutual aid among contracting states in meeting an emergency.

13. Agriculture and Markets Law, Article 17, Section 199-1 Prohibition as to Adulterated or Misbranded Food

Provides the Commissioner of Agriculture and Markets the ability to test food or foodstuffs for contamination.

14. New York State Defense Law, Article 6, Section 9160 Closing for Restrictions Use of Highways; Posting of Properties

Provides the Commissioner of Transportation the authority to open or close highways, waterways, railroads, et al.

15. Rockland County Resolution #76, February 7, 1984

Authorizes Rockland County's participation in the Four County Radiological Planning Task Force-authorizes the use of Rockland County employees for Radiological Emergency Response Plan.

16. Rockland County Charter, Local Law 14, Adopted November, 1984

Sets forth the form of government for Rockland County. Provides for the provision of County services, securing of all possible County home rule, separation of County and legislative functions and securing of economic and environmental health.

17. Rockland County Administrative Code, Local Law 7, Adopted December 1985

Sets forth the details of administration of Rockland County Government.

18. Tow Permit Law

Rockland County Local Law 9, 1979, as amended 1982. Sets forth towing regulations for passenger vehicles and licensing requirements.

19. Rockland County Executive Order #14, 1987

Sets forth procedures to be followed by County Departments in the event of an emergency.

FIGURE I-1

INDIAN POINT ENERGY CENTER
PLUME EXPOSURE 0-10 MILE PATHWAY EMERGENCY PLANNING ZONE

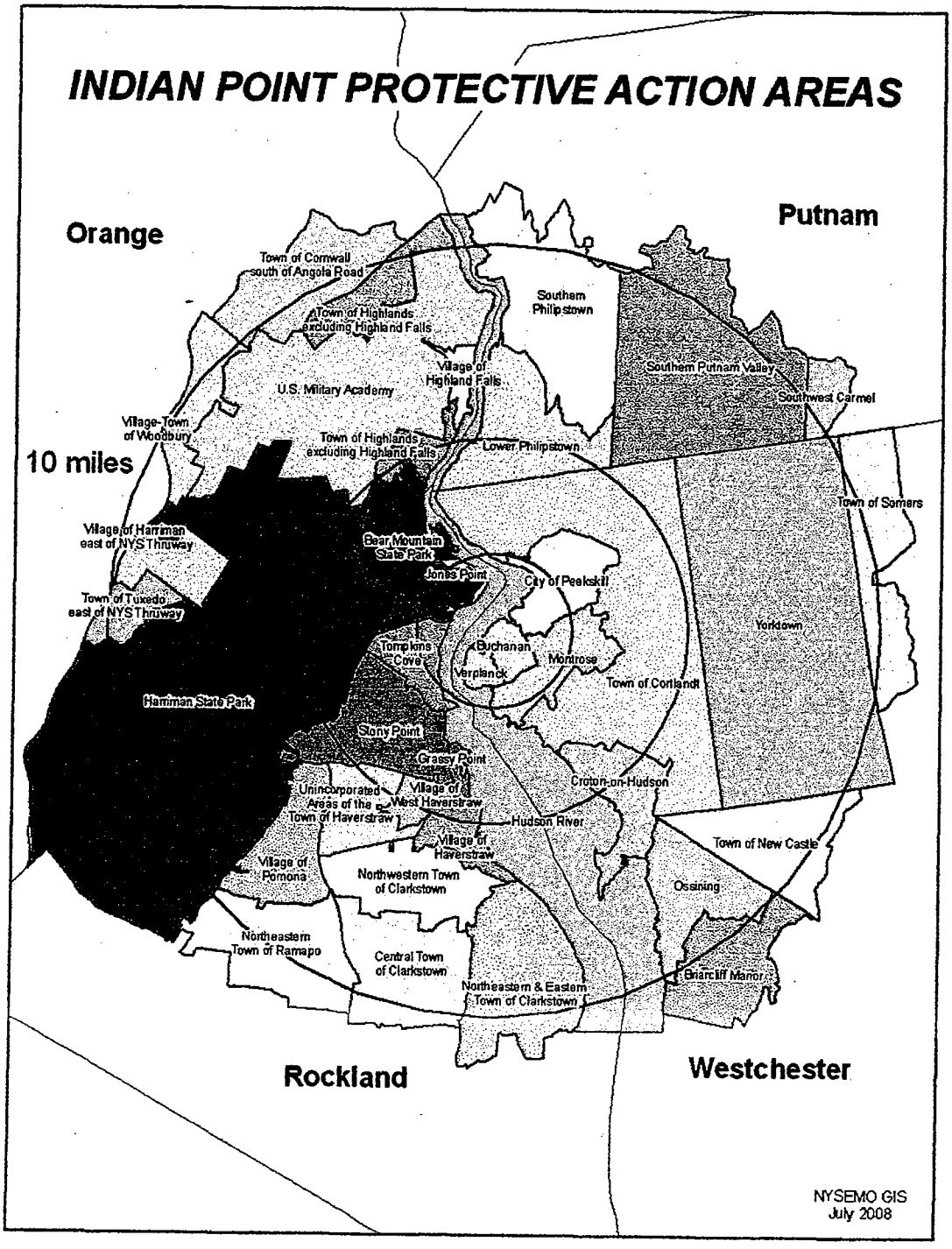


FIGURE I-2

INDIAN POINT ENERGY CENTER
INGESTION PATHWAY 0-50 MILE EMERGENCY PLANNING ZONE

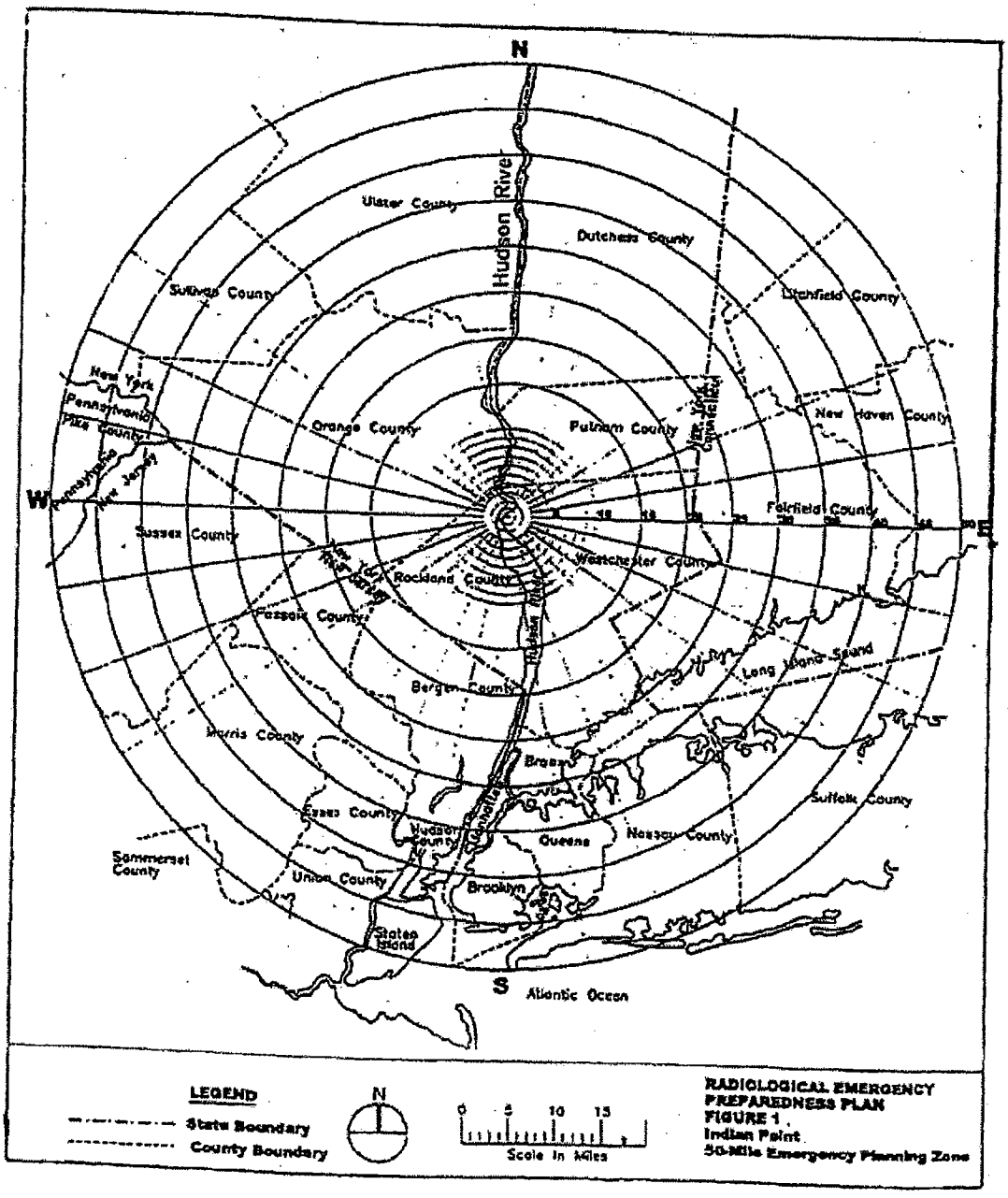


FIGURE I-3

INDIAN POINT ENERGY CENTER
NEAR SITE VICINITY

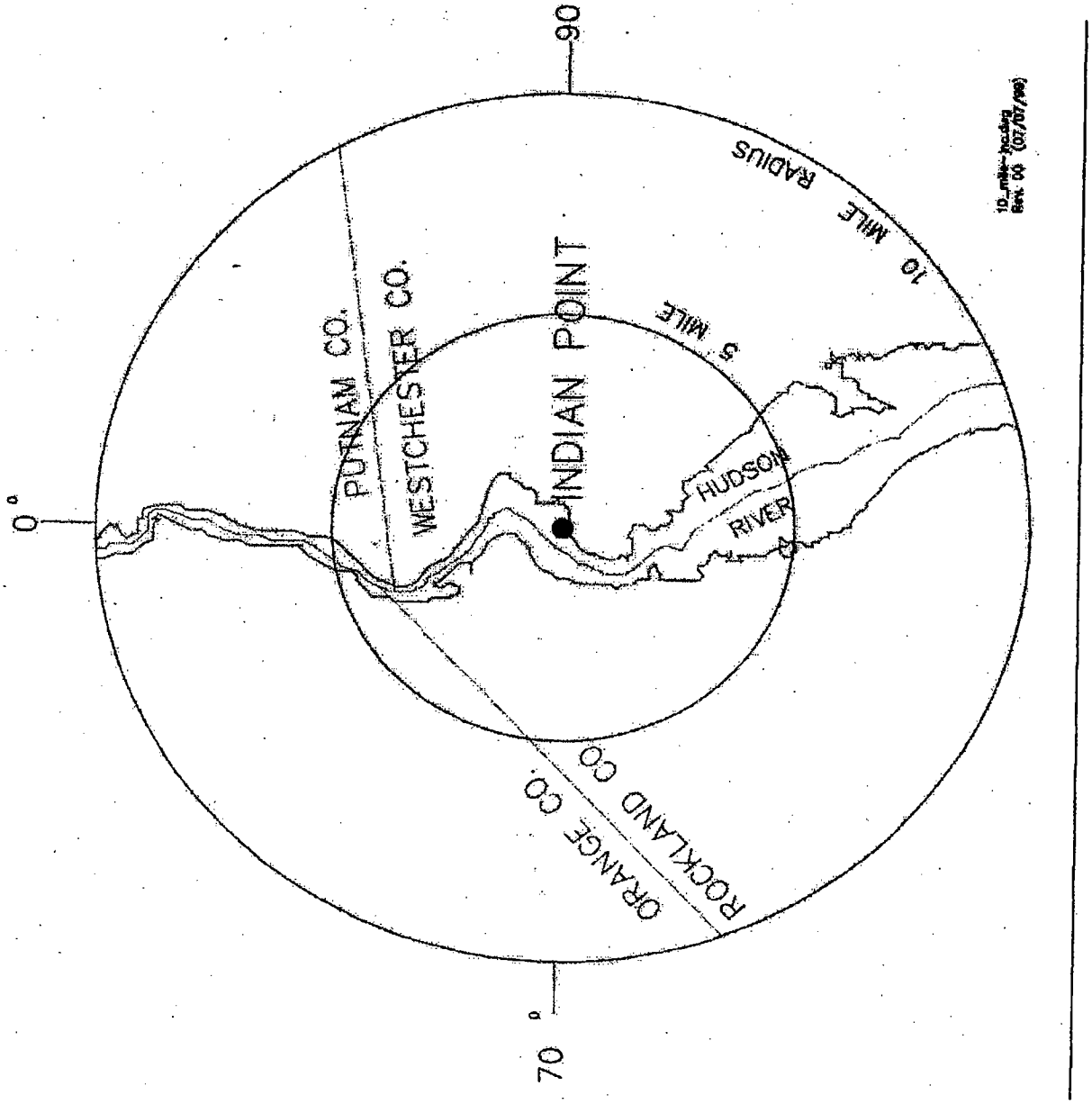


FIGURE I-4
INDIAN POINT ENTERY CENTER
PLOT PLAN

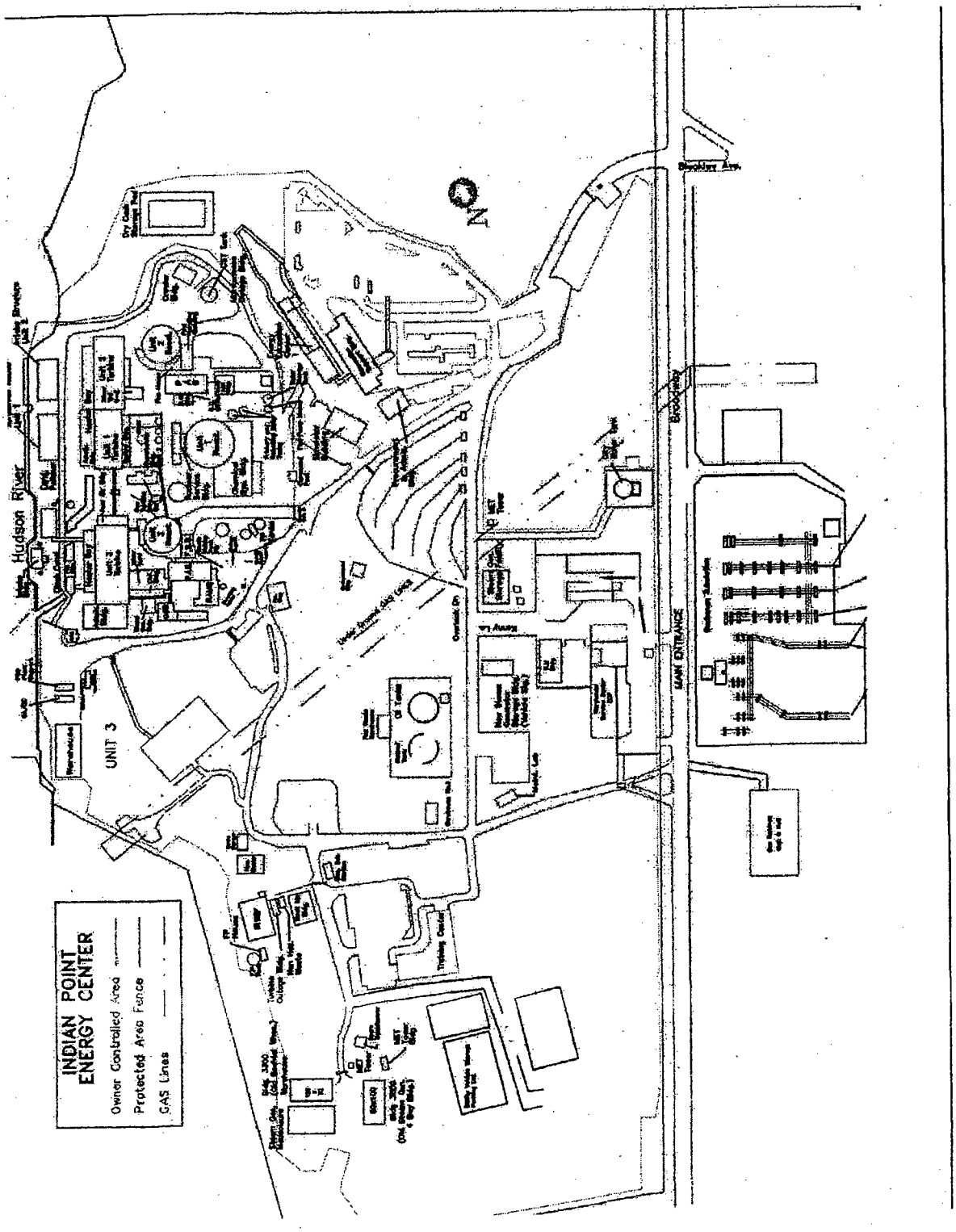
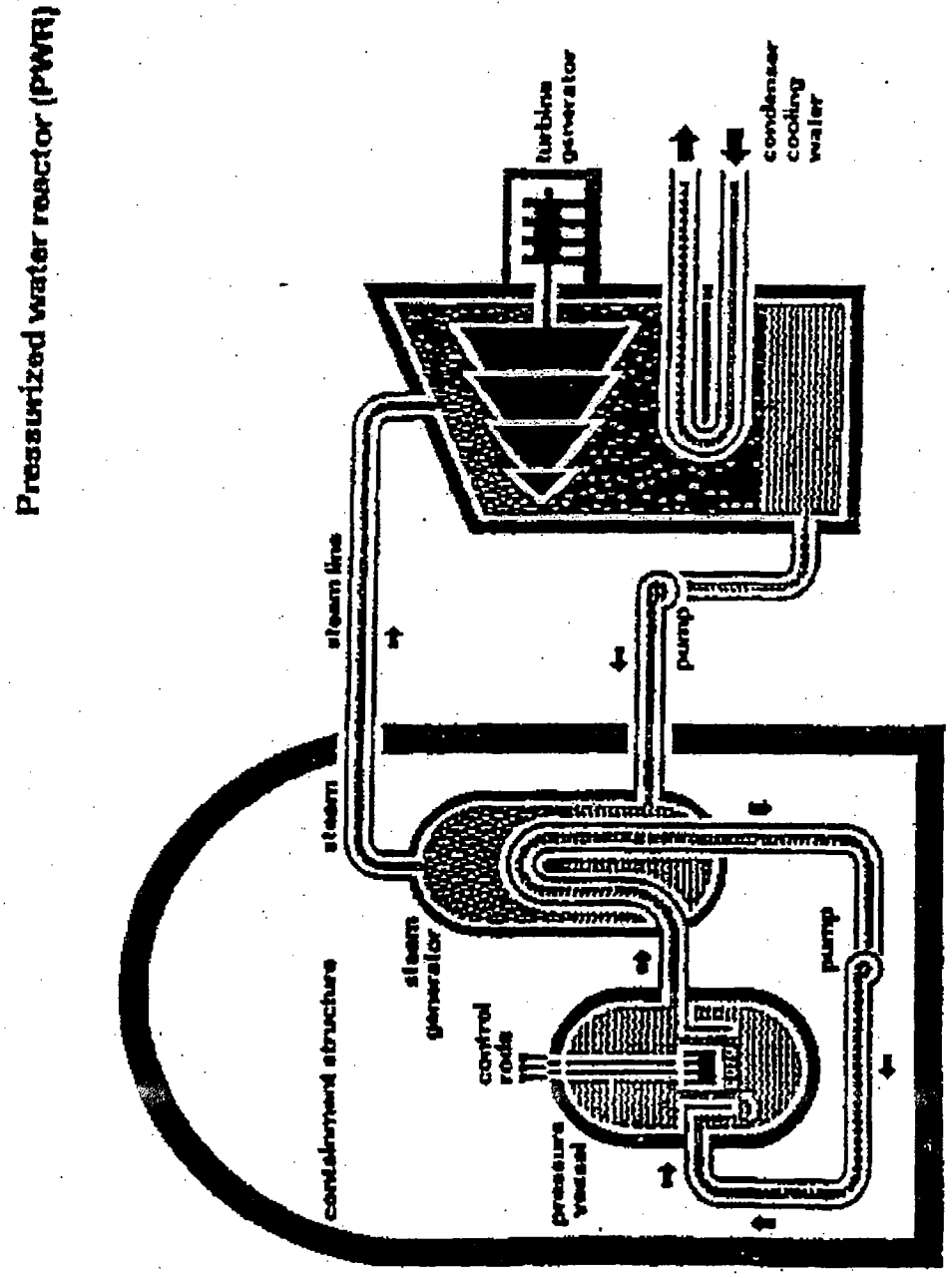


FIGURE I-5

PRESSURIZED WATER REACTOR SCHEMATIC



(NOT USED)

ROCKLAND COUNTY

RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

TABLE OF CONTENTS

(NOT USED)

PART I

SECTION II - PREPAREDNESS

A. MISSION

The Federal, State, and County Governments and the Nuclear Facility Operator have the responsibility to prepare for the protection of public health and safety in the event of a radiological emergency. A radiological emergency is a situation in which an offsite protective action may be necessary to reduce radiation exposure to the population as a result of an incident at a commercial nuclear power reactor.

Preparedness is the first phase of the emergency preparedness system. Its primary purpose is to enable state and local officials to eliminate or reduce the effects of any emergency. Plan writing is a major component of this phase for it documents the Emergency Preparedness Program.

Adequate preparation for radiological emergencies includes, but is not limited, to the following:

1. Administration
2. Logistics
3. Exercises and Drills
4. Technical Assistance
5. Training
6. Public Education/Awareness

B. PREPAREDNESS ACTIVITIES

The Rockland County Executive is responsible for the establishment and maintenance of the Rockland County Emergency Preparedness Program.

The Rockland County Executive, as agent of the County, is responsible for:

1. Assuring adequate staff and resources are available to the Office of Fire and Emergency Services to facilitate implementation of the Emergency Preparedness Program.

2. Designation of an Emergency Planning Director.

3. Assuring individual County emergency response agencies accomplish appropriate preparedness activities within their own agencies and coordinate these activities with the Emergency Planning Director.

The Emergency Planning Director is responsible for the implementation of the Emergency Preparedness Program. The Rockland County Director of Fire

and Emergency Services (CDFES) acts as the Emergency Planning Director. Responsibilities include:

1. Administration
   a. Controlling the distribution of copies of this plan.

   b. Providing for the prompt distribution of updates of this plan.

   c. Maintaining compatibility of this plan with other emergency response and preparedness plans.

   d. Conducting reviews and updates of this plan for the Office of the County Executive and the NYS Disaster Preparedness Commission and providing annual certification that the plan is current.

   e. Submitting revisions of this plan to the State Emergency Management Office (SEMO) for the Disaster Preparedness Commission. SEMO will forward the revisions of the plan to appropriate State and Federal agencies. Each revised section will be dated and marked to show where the latest changes have been made. Revisions will be noted on the Table of Contents.

   e. Coordinating the County radiological emergency response agencies and their procedures for implementing this Plan.

2. Logistics (See Procedure ADMIN-5, Emergency Equipment and Supplies)
   a. Maintaining up-to-date inventories of equipment and resources that can be marshaled in the event of an emergency. This is accomplished by a program of periodic inventories, inspections, and operational checks.

   b. Ensuring the operational readiness of the following:

      1. The County Emergency Operations Center (EOC).
      2. The County emergency communications network.
      3. The County field facilities.

   c. Maintaining up-to-date staffing rosters and notification lists of emergency response personnel.

   d. Maintaining up-to-date Letters of Agreement with appropriate facilities, resources, and support organizations.

3. Exercise and Drills (See Procedure ADMIN-3, Training)

a. Conducting required exercise(s) simulating offsite response to a radiological release for the County emergency response agencies in conjunction with the Nuclear Facility Operator (NFO), the State of New York, and the adjoining counties in the Emergency Planning Zone. Provisions have been made for the critique of the emergency drills and exercises by qualified Federal, State or local observers. DHS-observed exercises will be conducted on a biennial basis.

A mechanism has been established for using the results of drills and exercises as a basis for improving this plan.

b. Pending the development of exercise scenarios by the NFO and the State before each DHS observed exercise, the CDFES will coordinate, with appropriate County, State and Utility personnel, the following information:

1. The basic objective(s) of the exercise and appropriate evaluation criteria.

2. Specific "observables" to be demonstrated by Rockland County.

3. The date, time period, place and participating organizations.

4. The simulated events.

5. A time schedule of real and/or simulated events.

6. A narrative summary describing the conduct of the exercises or drills to include required simulated events.

c. Radiological monitoring drills are conducted annually.

d. Communications Drills

Communications equipment test frequency is identified in Procedure ADMIN-6, Communications Testing.

e. Medical Emergency Drills (MS-1) are conducted biannually.

4. Resource Maintenance
The testing of radiological instruments, equipment, warning systems, and communications is coordinated with the NFO, the State, and other appropriate organizations. Maintenance checks of these resources are conducted in accordance with applicable procedures.

5. Training (See Procedure ADMIN-3, Training)

a. Establishing a suitable training program that is specifically oriented toward radiological emergencies for all County emergency response agencies including support organizations. This training program will provide for periodic retraining on at least an annual basis. Training and retraining programs are provided for the following emergency response personnel:

1. Directors or coordinators (and their associated staff) of the response organizations

2. Personnel responsible for radiological assessment

3. Radiological monitoring teams

4. Police and firefighting personnel

5. First aid and rescue personnel

6. Local support services personnel including Office of Fire and Emergency Services personnel

7. Medical support personnel, including hospitals that can handle contaminated/exposed individuals

8. Personnel responsible for transmission of emergency information and instructions

b. Scheduling with County Agency and volunteer organization Directors the training for members of the Emergency Response Organizations.

c. Arranging for training assistance from the State and the Nuclear Facility Operator (NFO).

d. Familiarizing new County emergency response personnel with this plan.

e. Providing relevant, up-to-date radiological emergency planning information, as appropriate, to the County emergency response agencies.

f. Maintaining records of training including lesson plan/outline utilized, instructor(s) name, attendees, date, place, time, and duration of training session.

g. Maintaining the level of expertise of the emergency planning staff.

6. Public Education/Awareness

a. Developing a public education program in conjunction with the four County Public Information Officers, the NFO, the State of New York and the Federal Government to provide information about the Indian Point Energy Center. Included in this program is the preparation and distribution of public information brochures about emergency planning for the Indian Point Energy Center and the Emergency Planning Zone.

b. Coordinating with the NFO, the four County Public Information Officers, and the State of New York for an annual news media education program to acquaint the news media with the county preparedness plan. This program familiarizes media representatives with Rockland County Emergency Plans and Procedures, basic radiation concepts and nuclear power plant operations, the process for release of public information in an emergency, as well as the activation and operation of the Joint Information Center (JIC). This program takes the form of either a verbal presentation or the distribution of an Indian Point Emergency Planning Media Manual to the media.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN
TABLE OF CONTENTS

PART I

SECTION III-RESPONSE

A. MISSION

The Federal, State and County Governments and the Nuclear Facility Operator have the responsibility to protect public health and safety in the event of a radiological emergency.

Response is the second phase of the emergency preparedness system. Its purpose is to enable state and local officials to reduce the effects of any emergency.

Adequate response to radiological emergencies includes, but is not limited to, the following response activities:

1. Command and Control
2. Emergency Mobilization
3. Public Information
4. Communications
5. Public Notification
6. Assessment and Evaluation of Protective Response Options
7. Radiological Exposure Control
8. Protective Actions

B. IMPLEMENTATION OF RESPONSE ACTIVITIES

1. Command and Control

During a County Emergency, the County Executive is responsible for the health and welfare of residents of the County of Rockland and will provide personnel and equipment from all County departments and agencies necessary to achieve this objective. Specifically during a radiological emergency, the Executive acting as the Emergency Coordinator will assume command of and direct the overall County response activities.

When the State of New York issues a State Disaster Declaration, the State assumes control of the emergency.

The Emergency Coordinator is responsible for ensuring the continuity of County resources. If the Executive is unable to assume the position of Emergency Coordinator, or when it is necessary for him/her to be relieved during a protracted operation, the command and control function will devolve upon the highest available person from the following list:

Chief of Staff
Deputy Chief of Staff
County Attorney
Chairman of the Legislature
Vice Chairman of the Legislature

The Rockland County Emergency Operations Center (EOC) is located on the lower level of the Fire Training Center in Pomona, New York. It is at that facility that emergency response activities will be coordinated under the direction and control of the Emergency Coordinator.

The Emergency Coordinator will be receiving and reviewing a constant flow of information from the staff at the EOC as to event classification, escalation, real or potential radiation hazards, and recommendations on protective responses. Based on the CDFES and the County Commissioner of Health's recommendations, and after review of available resources, the Emergency Coordinator will formulate the County's position regarding the protective response required.

Having determined the County's position, the Emergency Coordinator will then confer with the other three County Executives and the Chairman of the New York State Disaster Preparedness Commission to ascertain their recommendation regarding the situation. Since the State and County assessments are based on the same data inputs, ideally their recommendations will be similar in nature and agreement on the best protective response.

Upon determination of a protective response, the Emergency Coordinator, through the response organization representatives at the EOC, will direct the implementation of the appropriate protective response actions.

2. Emergency Mobilization

For a radiological emergency, Rockland County will use the Emergency Operations Center (EOC) located at the Fire Training Center, Pomona, New York. Once the EOC is activated, provisions will be instituted to ensure 24-hour operation. Each response agency will establish 24-hour (12-hour shift) duty assignments.

a. Notification

(1) Nuclear Facility Operator Notification Plan

The Nuclear Facility Operator notification plan is initiated when the Indian Point Energy Center Emergency Director determines that there exists an initiating condition for any of the four Emergency Classifications. Upon this determination, the Emergency Director shall notify the County Warning Point (Sheriff's Communication Center) by activating the New York State Radiological Emergency Communication System (RECS) and providing the information contained on the Radiological Emergency Data Form.

(2) County Notification Plan

Immediately following receipt of an emergency notification, the County Warning Point will call the agencies and persons indicated in the implementation procedures (see Procedure RCS-4, Notification of Response Agencies). The County Warning Point is operated on a 24-hour basis. These calls will be by telephone or radio communications. Key personnel have been assigned pagers and can be reached on a 24-hour basis. Calls from the County Warning Point may be supplemented by using Law Enforcement personnel to notify agencies and persons when initial contact cannot be made. These calls will include pertinent information received from the Indian Point Energy Center. Personnel alerted will either immediately report for duty or stand by. The person receiving the call is responsible for making additional calls as indicated in the procedures.

The OFES will notify local municipal officials (town, city, village) as well as Bergen County, NJ.

b. Activation

During the activation phase of the County Radiological Emergency Preparedness Plan, the following key County emergency response personnel will proceed as assigned to their primary duty station according to the following:

(1) County Personnel and Emergency Representatives or their Designees Reporting to the Emergency Operations Center (EOC)

Rockland County Executive (Emergency Coordinator)
Director Office of Fire and Emergency Services and Staff
Sheriff
Local Police Representative
Commissioner of Health
Superintendent of Highways
Commissioner of Public Transportation
Commissioner of Social Services
Director of Communications
Fire Coordinator
EMS Coordinator
BOCES Assistant Superintendent of Business and Finance
American Red Cross Representative
Special Facilities Coordinator
Radio Amateur Civil Emergency Services (RACES)
Inter-County/Bergen County Liaison at EOC
Dose Assessment Team Leader
County Attorney
Commissioner of Mental Health
Director of Office of Aging

Director of Office for People with Disabilities
New York State Police Representative
New York State Park Police Representative
Bergen County Police Representative (optional)
Local Business Liaison

(2) County Personnel Reporting to the Joint News Center
County Public Information Personnel

(3) Other Personnel Reporting to County Emergency Operations Center as Needed Representatives of:
New York State Department of Transportation (optional)
New York State Emergency Management Office (SEMO)
New York State Department of Health (optional)
Nuclear Facility Operator Representative
Orange & Rockland Utilities
Bell Atlantic
Local Business (optional)

(4) County Personnel Reporting to Bergen County (NJ) EOC
In the event of an Alert classification, the Rockland County Liaison to Bergen County may be dispatched to the Bergen EOC located at 327 Ridgewood Ave., Paramus, New Jersey. The Liaison will coordinate all communications and resource aid between Rockland and Bergen Counties.

(5) Personnel to be Notified but DO NOT Report to EOC unless Requested by Emergency Coordinator

Budget Department	HELP Pilot
Personnel Department	Medical Examiner
Bergen County OEM	Utility Companies (electric, gas, water, telephone)
Purchasing Department	

Upon arrival at the EOC, the first responsibility of the Director of the Office of Fire and Emergency Services is to activate and confirm the operability of the communication systems between the County and State EOCs, the Nuclear Facility Operator/Emergency Operations Facility, and through his staff, activate and confirm the operability of the County emergency communications network.

In the event the individual listed above for each agency is not available to respond, his/her alternate or designee will be immediately notified. A list of alternates will be on file at the County Warning Point (Sheriff's Communication Center).

During the verification phase of the County Radiological Emergency Preparedness Plan, the Emergency Coordinator and the Director of the

Office of Fire and Emergency Services will, either personally or through their staffs, confirm the activation and availability of emergency response personnel and resources.

For a radiological emergency, the EOC is activated at an Alert or greater emergency classification or as otherwise directed by the Emergency Coordinator or designee. Since the Office of Fire and Emergency Services has certain standard operating procedures for all types of emergencies, these same procedures will apply to activation of the EOC under a radiological emergency. The County officials and response organization representatives who comprise the EOC emergency staff will be directed to report to the EOC by the County Warning Point in accordance with Procedure RCS-4, Notification of Response Agencies.

The Sheriff will ensure that an officer is stationed at the entrance to the EOC who will admit only properly identified personnel with emergency assignments. Anyone who cannot produce proper identification will be denied admission unless a representative of either the Emergency Coordinator or the Director of Fire and Emergency Services orders that they be admitted.

Upon activation of the EOC, pre-assigned telephones will be plugged into jacks that have already been installed at appropriate locations to provide each response organization with its own telephone capability.

Radio communications will be established with field forces. Communications with field forces that do not have base stations in the EOC will be by telephone to the location(s) of the respective radio systems' base stations.

Appropriate status boards, maps and charts are maintained in the EOC.

The Radiological Emergency Communications System (RECS) will be used to maintain a communications link between the Nuclear Facility Operator/Control Room/Emergency Operations Facility, the County Emergency Operations Center, the State Emergency Operations Center and their respective warning points to provide emergency information to the Emergency Coordinator.

3. Public Information
   a. Release of Public Information

      To ensure the controlled and coordinated release of information to the public, the Rockland County Director of Communications is designated as the County Public Information Officer (PIO) and will report to the EOC and assume the position of JIC PIO, the official Rockland County source for all releases of information to the news media and the public. All other Rockland County emergency response personnel will forward all requests for information from the

news media to the County Public Information Officer. The County Public Information Officer, under the direction of the Emergency Coordinator, will arrange for any public announcements to be made over local radio and/or TV stations via the Emergency Alert System (see Appendix J). This will be accomplished via teleconferencing and/or video link between the Joint Information Center and the EOC. The Four County Public Information Officers will closely coordinate with the State the release of Emergency Alert System (EAS) messages to EAS stations and the media.

News releases will also be coordinated with New York State, other Counties, the Nuclear Facility Operator and Federal spokespersons. A facility located at the Hudson Valley Transportation Management Center, Hawthorne, NY has been designated as the Joint Information Center and will be used by the news media during a radiological emergency at the Indian Point Energy Center. Prior to activation of the News Center, the County Public Information Officer will maintain communication and coordinate all news items with other County, State and Utility spokespersons to the extent practical. After the News Center has been activated, a County Public Information representative will be present utilizing Procedure PI-1, Public Information Emergency Response Actions, and other procedures detailed in the Indian Point Joint Information Center Procedures, which is used by all County, State and Utility spokespersons. Included are draft messages covering the four classifications of emergency, with attention paid to protective actions recommended by the Emergency Coordinator as well as notification of de-escalation or termination of the emergency.

In preparation of Emergency Alert System messages and/or press/news releases, the County Public Information Officer will incorporate the following specifics:

* Location (County)
* Governing Authority (County or State)
* Protective Actions (shelter-in-place and/or evacuation)
* Affected Area Descriptions
* Reception Centers (as needed)

b. Public Inquiry

The Public Inquiry effort consists of two major components located at and coordinated through the Joint Information Center. These components will be cooperatively staffed by County, State and Licensee representatives at the Joint Information Center. New York State will operate as Public Inquiry Coordinator on behalf of all agencies.

Television and radio broadcasts, as well as newspapers will be monitored and reviewed. Incorrect, inaccurate or questionable information in these media sources will be brought to the attention of the appropriate PIOs. That representative will then take corrective action by providing accurate information

directly to the involved station or publication, or to all media present at the Information Center via a news briefing or press release as deemed appropriate.

Telephone operators with current information over specially designated telephone lines will respond to misinformation or rumors circulating through the public. After the JIC is declared operational, and the Public Inquiry telephones are staffed, the "Public Inquiry" numbers will be announced at a news briefing. The Public Inquiry function is to provide the public with clarification of the information that may be in conflict with the official announcements. Information provided will be from EAS messages and news releases.

The Public Inquiry function is conducted in accordance with the Public Inquiry Procedures contained in the "Indian Point Joint Information Center Procedures" and Public Information Education Work Plan.

Public Inquiry on the County level consists of three components. The first is a Community Radio Station 1640 AM, which can be used by the JIC PIO to air emergency information. The system operates 24 hours a day, seven days a week, and can broadcast prerecorded messages. During an emergency at the Indian Point Energy Center, public information could be disseminated to the general public on a continuous basis. The second is a Citizen Advisory Network, which has the capabilities of placing approximately 1,000 calls on an hourly basis. The third component is Code RED, a web and phone based system for selecting households to call using geographic criteria. The system has the ability to call up to 60,000 households per hour for delivery of emergency-related information.

4. Communications

The rate of response to any incident is predicated on reliable communications. The following explains the communications network to be employed in response to a radiological emergency: In the event of a radiological emergency at the Indian Point Energy Center, the Radiological Emergency Communications System (RECS) enables the Indian Point staff to promptly notify State and County emergency response organizations. In addition to RECS, telefax machines (hard copy) will provide for additional communications between the Indian Point Energy Center Emergency Operations Facility (EOF) and the Emergency Operations Centers (EOCS) for the State of New York and Rockland, Orange, Putnam, Westchester and Bergen Counties.

Within Rockland County, appropriate response actions will be coordinated using the New York State RECS, the Executive Hotline Emergency Communications System, the State Emergency Management Office (SEMO) Communications System, Local Government Radio, Health Department/Department of Social Services Communications System, Highway Department Communications system, Sheriff and Police Department Communications, American Red Cross mobile

communications, Emergency Medical Services Communications and Radio Amateur Civil Emergency Services (RACES) operators and equipment.

All fixed and mobile radio units of Utility, State, and County response organizations are used on a regular basis by operating agencies. County owned radio equipment is maintained by the Office of Fire and Emergency Services and all malfunctions are reported to the County Emergency Operations Center in Pomona, New York and repaired with minimum delay. Telefax machines are used on a regular basis between Counties and the State and are maintained by the Office of Fire and Emergency Services.

The Rockland County Emergency Communications network (County Warning Point, manned on a 24-hour basis) operates from the Rockland County Sheriff's Communication Center, Fire Training Center, Pomona, New York.

Rockland can also communicate on the local government frequency with the State Emergency Management Office (SEMO) regional office in Poughkeepsie, and Westchester, Orange and Putnam Counties and the Nuclear Facility Operator. Additionally, contact can be made with these locations and other points via commercial telephone.

Contact with Bergen County is by police radio or commercial telephone.

Communications to the State Warning Point provides the contact for the National Guard. Westchester County is the primary party to contact the United States Coast Guard for purposes of traffic control on the Hudson River. In addition to the Coast Guard, Westchester County contacts Metro-North, the Federal Aviation Administration and the Emergency Alert System. If public and private transportation companies are to be utilized, contact will be by commercial telephone or by RACES radio. Additional RACES representatives can be made available for dispatch to additional support agency headquarters should that agency be unable to contact Rockland County.

Given no system failure, commercial telephone will be used as the principal source of contact with many support agencies.

A communication link will be provided between the EOC and the Joint Information Center to ensure communications between the County's JIC PIO and the PIO at the EOC (EOC PIO).

Communications between contiguous states and counties in the 50-mile Ingestion Exposure Pathway is a New York State responsibility and will be accomplished by the State Warning Point.

a. The New York State Radiological Emergency Communications System (RECS) for the Indian Point Energy Center

(1) Description

This section defines the configuration and functional requirements for a dedicated telephone network to be used for vital communications pertaining to radiological emergencies at the Indian Point Energy Center in Buchanan, New York.

RECS is a telephone conferencing system between the Indian Point Energy Center (IPEC), New York State, the four counties of Orange, Putnam, Rockland and Westchester, and other organizations including the West Point United States Military Academy and the City of Peekskill. Those in the Central Control Rooms at both IPEC Unit 2 (U2CCR) and Unit 3 (U3CCR) and those at the State and the Counties Warning Points are manned continuously for the initial call and message concerning an emergency at IPEC. As necessary, other stations including the IPEC Emergency Operations Facility and Alternate Emergency Operations Facility (EOF and AEOF) and the counties Emergency Operations Centers (EOC) and NY State Coordination Centers are subsequently manned for follow-up messages.

Each location has one or more telephones capable of hands-free operation, built-in speakerphone feature, and ring and light annunciators together with other common equipment necessary to couple the station to the system. Entergy Northeast initiates all RECS calls. When a call is initiated by either U2CCR or U3CCR, a continuous ring and flashing light announce the call at the other stations until they go off-hook or press the hands-free (Speakerphone) button. The ringing will time out after 15 minutes. All calls are recorded on the system server at IPEC.

The RECS system is available at all times on a 24-hour a day, 7 day a week basis, and is not used for other purposes. The system configuration and its functional operation are described in Appendix F.

b. The Executive Hotline Emergency Communications System

EHL is a telephone conferencing system between the Indian Point Energy Center (IPEC), New York State, the four counties of Orange, Putnam, Rockland and Westchester Emergency Operation Centers.

Each location has one or more telephones capable of hands-free operation, built-in speakerphone feature, and ring and light annunciators together with other common equipment necessary to couple the station to the system. All parties can initiate a conference call.

When a call is initiated a continuous ring and flashing light announce the call at the other stations until they go off-hook or press the hands-free (Speakerphone) button. The ringing will time out after 15 minutes. All calls are recorded on the system server at IPEC. The system configuration and its functional operation are described in Appendix F.

c. Rockland County Emergency Communications Network

The emergency communications network utilizes telephone lines, both dedicated and commercial, and radio communications as described below:

(1) Commercial Telephone

Multiple telephone lines and mobile phones are available for use. Commercial telephones may be used as a means of communication between government agencies in the event of an emergency. Several agencies have radio communication systems that may be used as backup to telephones.

(2) Sheriff's Communication Center (44 Control)

Access to the following systems can be gained through the Sheriff's Communication Center, which is located adjacent to the County EOC:

(a) County Police System
(b) County Fire System
(c) Local Government Radio System
(d) County Emergency Medical Services and Hospital System
(e) County Highway System/New York State Department of Transportation System
(f) Bergen County Police System
(g) Coast Guard Radio
(h) Radiological Emergency Communications System (RECS)
(i) Commercial Telephone System
(j) Orange & Rockland Dedicated Hotline (O&R System)
(k) Key Personnel Paging System
(l) New York Statewide Law Enforcement Communication Channel (Intra-agency)
(m) New York Statewide Police Information Network (NYSPIN Teletype)
(n) New York State Fire Mutual Aid System
(o) Siren Alert & Notification System
(p) Emergency Alert System (EAS)

(3) Rockland County Emergency Operations Center (EOC)

In the EOC, along with commercial telephone systems, access to radio communication is available as shown below:

(a) Radiological Emergency Communication System (RECS) (dedicated telephone)

(b) Executive Hotline Emergency Communication System (dedicated telephone)
(b) Health Department System/Dept. of Social Services Communication System (radio)
(d) Local Government System (radio)
(e) Fire Dept. Communication System (radio)
(f) County Police Dept. Communication System (radio)
(g) New York State Police Communication System (radio)
(h) County EMS & Hospital Communication System (radio)
(i) County Highway/New York State Department of Transportation Communication System (radio)
(j) Radio Amateur Civil Emergency Services System (RACES) (radio)
(k) 1640 AM Radio Station
(l) City Watch System
(m) Blast E-mail
(n) Code RED web and phone based system

(4) Rockland Mobile Communication Van
Rockland County has a mobile command center at its disposal. This van has access to the County Police, County Fire, County EMS Radio Systems and the Commercial Telephone System and will be used as back-up to EOC communications as deemed appropriate.

5. Public Notification
a. Notification of the General Public
This section presents a review of the prompt alert and notification system that has been installed in the 10-mile EPZ and discusses additional general public and transient population notification. NUREG-0654 provides guidance for prompt notification of the public in an emergency situation and instructions on information to be given to the public in the event that protective actions need to be taken. This system is intended to be utilized during a General Emergency or earlier if deemed necessary.

At the present time, there are two (2) installed prompt alert and notification siren systems; an existing Matrikon siren system and a new Acoustic Technology Inc. (ATI) siren system. The new ATI siren system will replace the existing Matrikon system when testing and qualification is completed.

(1) Public Alert and Notification Systems

(a) Introduction

The Nuclear Facility Operator (NFO) has installed an Alert and Notification System (ANS) in the 10-mile radius area surrounding the Indian Point Energy Center. Siren activation and Emergency Alert System messages are coordinated by the four counties. If public action is required, then the sirens will be activated within fifteen minutes of a decision made by the four County Executives. The intention of the alert signal is only to instruct the public to turn to public media (radio and television) for more specific information.

(2) Siren Placement/Acoustic Guidelines

NUREG-0654 and FEMA-REP-10 indicate that the determination of adequate siren sound levels is achieved as follows:

- For population density below 2000 persons/square mile, a signal of 60 dBC is produced.
- For population density above 2000 persons/square mile or more, a signal of 7- dBC is produced.
- A siren signal is produced that is 10 dBC above the measured ambient noise.

(3) Siren Distribution

(a) Matrikon Siren System

For effective coverage of the Indian Point EPZ, high power electro-mechanical sirens were selected as the alerting devices for the ANS. Based on the siren placement guidelines presented above, the system design indicates that 156 sirens are required. The distribution is as follows:

**	Westchester	-	79
**	Rockland	-	51
**	Orange	-	16
**	Putnam	-	10

(b) ATI Siren System

For effective coverage of the Indian Point EPZ, fixed omnidirectional sirens were selected as the alerting devices for the ANS. Based on the siren placement guidelines presented above, the system design indicates that 172 sirens are required.

The distribution of sirens in each of the four affected counties is as follows:

**	Westchester	-	77
**	Rockland	-	56
**	Orange	-	23
**	Putnam	-	16

(4) Siren Control and Communication

(a) Matrikon Siren System

The 156 sirens are connected via a dedicated frame relay network to the County Warnings Points and Emergency Operations Centers. In addition, the warning points are also directly connected to the siren network via a radio link, in the event that the frame relay system fails. Activation, monitoring and testing of the sirens are available from each County Emergency Operations Center, Warning Point and also at the Indian Point Energy Center.

The computerized system used for siren control has the ability to activate sirens and also provide electronic verification of siren performance (e.g., whether or not each siren sounded and rotated). In addition the siren system performs periodic monitoring of key siren parameters such as power and communication availability.

(b) ATI Siren System

Control

Control, as used herein, refers to those functions that are used to activate the sirens, monitor siren system functionality, and receive condition status and alarms from the sirens.

The siren control system consists of eleven independent and redundant control stations. Each county has at least two control stations. One is located at each county's Warning Point (WP) that is manned continually on a round-the-clock basis. Another station is located at each county's Emergency Operations Center (EOC). Westchester County has a third control station located at its backup EOC. Two control stations are located at IPEC.

Each control station consists of one computer system, one cell modem for TCP/IP communications, one REACT 4000 Communications Control Unit (CCU) for radio communications, and a UPS and backup batteries. The computer runs control and monitoring software.

The Internet/Cellular system utilizes the computer, cell transceiver, and cell antenna at each control station to initiate activation and polling

commands to the sirens and to monitor results. The computer is programmed to activate a pre-defined group of sirens and is the main component used to activate and monitor the sirens using the TCP/IP path. Transmission paths between the control stations and sirens use commercial carriers that are independent of the Radio System.

The Radio System uses a REACT 4000 to initiate and monitor activation and polling commands to the sirens. It is also programmed to activate a pre-defined group of sirens. It can operate independently without the computer, but is normally aligned so that it processes activation and polling commands initiated by the computer. Activation using the Radio system sends activation signals to the Internet/Cellular system and vice versa.

Typically, the control stations in the individual counties of Orange, Putnam, Rockland, and Westchester are set to activate and monitor only those sirens within their own jurisdictions. However, the control units can be set up with the ability to activate sirens in any and all jurisdictions. In this way, the control units provide redundancy and backup to other controls stations. If a control station in one of the counties were out of service, its sirens could be activated by another control station within the county, or if agreed, by another county. All of the computer/REACT-4000/cell modem units have battery backup power capable of providing a minimum of 24-hours of operation in case of primary power failure.

Sirens can be activated by either the REACT-4000 alone (radio) or the computer (REACT 4000 or TCP/IP). Upon initiation, activation signals can be sent over the following two pathways simultaneously:

- The 200 MHz radio to the radio transmission towers, which then transmits signals to the siren network via 220 MHz, and

- Commercial cell phone modem network/internet (TCP/IP, Transmission Control Protocol/Internet Protocol) to the individual sirens and control stations where cellular modems receive the signals.

The 220 MHz radio interface is built into the REACT-4000 unit and the TCP/IP interface is connected through the computer. In normal operation, the REACT-4000 and the computer communicate so that activations, initiated by either unit, are sent out over both paths. If either the REACT-4000 or the computer is non-functional, the other component can still transmit activations over the remaining path.

The use of either of these two pathways is sufficient to activate the sirens. The control stations poll the individual sirens using the same

communications pathways to determine siren status and function. The control station computer is password-controlled so that it can be set for use in its primary county, or as a backup for other counties as required.

Sirens are routinely polled to report on operational readiness. Key system parameters that are monitored include communications, AC power availability, siren and control station operability and battery status.

Communication
There are two separate and distinct communications paths between the control stations and sirens:

- Redundant 220 MHz simulcast radio networks linking all sirens and CCUs through repeater towers

- Commercial cellular TCP/IP connectivity to all sirens and control stations

The radio pathway and cellular TCP/IP pathway operate concurrently.

The dedicated simulcast radio network is comprised of four towers sites, each with redundant radio hardware to communicate activation and status monitoring signals between the control stations and sirens. Signals received by any tower will result in these signals being communicated to all towers. The signals are then re-sent in a coordinated manner to all sirens and control stations as appropriate, to minimize signal interference. There are two redundant radio paths used to communicate between the control stations and sirens. Each path includes radio antennas at each tower, radio frequency transmitters/receivers at each tower and a communication link between towers. Only one of these paths is in full operation at a time, with the other normally in standby. The receiver paths at the towers are always maintained in operation and can therefore process any signals received, but only one transmitter can operate depending on which one is selected to be in service. Failure of the in-service path would result in automatic transfer to the standby path. There are no shared components in the signal transmission path used to activate and monitor the sirens except for the equipment building and tower structure, the equipment maintaining the time stamp for synchronization with the sirens, and both paths share the same battery backup. The control circuits used for tower alarms and channel switching are also shared.

The towers communicate to each other through redundant communication links. One of these communication links uses microwaves and the other uses Telco T1 telephone lines. The redundant controlling electronics for processing the multiple signals received by the

towers are located in different facilities: For the T1 path, it is the IPEC Met Tower and for the microwave path it is Tinker Hill Tower.

Control signals to transfer between communication links are processed through the IPEC General Support Building (GSB) with the capability to manually transfer this function to the IPEC EOF as a backup. Loss of one of the tower communication links would not prevent the Radio System from activating or monitoring the sirens.

One complete radio path for status monitoring and activation (microwave path) has a confirmed 24-hour battery backup capability via one channel of the radio system. Most of the redundant path (Telco T1) in the radio system also has a confirmed 24-hour battery backup capability. The one exception is the communication link between the towers that uses Telco T1 lines operated by the local telephone carrier. Table 9-1 describes the characteristics for the transmission towers. The locations of the sirens, control stations, and repeaters are depicted on Map 1.

The cellular TCP/IP siren activation and monitoring pathway does not rely on the repeater towers; it processes signals directly between the control stations and the sirens.

Alarms and status monitoring of signals to and from the sirens are processed using the same dual paths that are used for siren activation.

Each repeater tower also has a monitoring unit which provides alarm monitoring and control for the radio system at the towers and communicates to the control stations by a separate radio and TCP/IP cell modem, each having its own antenna. The monitor processes signals to indicate alarm conditions at the repeater towers resulting from component failures, activates or blocks either the microwave transceivers or the Telco T1 line transceivers depending on which tower communication path is desired, powers down several components in the standby channel if there is a loss of AC power at the towers, and initiates a transfer between the microwave mode and Telco T1 mode when conditions dictate (manually, automatically on a major component failure, or automatically on a regular scheduled, if selected). Each control and alarm communication path to the towers is independent of the other except where these signals are processed through common circuit boards and where components in the redundant communication paths are housed in common enclosures at the control stations and towers. The monitoring units at the towers share the 24-hour battery backup supply.

The actions and responsibility for the activation of the ANS in Rockland County is described in Procedure RCS-6, Alert and Notification System Activation.

(5) Supplemental System-Tone Alert Radio

Special Facilities -- As a supplement to the siren system, there is a system of tone activated alert radios for warning organizations such as hospitals, schools, etc. These radios have been distributed to these facilities to augment sirens in the 10-mile EPZ. Each of these facilities is equipped with a Tone Alert receiver which, upon activation by the EAS signal from WHUD in Peekskill or from 44-Control, will automatically enable that radio to receive the broadcast of the emergency messages. In rural areas where siren coverage may be marginal, individual dwellings have been offered a tone alert radio.

Low Siren Coverage Area -- A siren contour study was conducted for the new ATI siren system. The study indicated areas of low audibility (less than 60 db in areas with population less than 2,000/sq. mi. or less than 70 db in areas with population greater than 2,000/sq. mi.) in the Rockland County portion of the EPZ.

To insure that the public is notified in these low volume areas, tone alert radios are provided to augment primary alert and notification systems.

(6) Back-up Notification Systems – Reverse 911 (City Watch or Code RED)
In the event of a siren failure, Reverse 911 notification systems are in place to notify and alert residents in the vicinity of in-operable sirens. Reverse 911 notification systems are the primary back-up means for alerting the public. These notification systems consist of computerized calling equipment to contact residents in the EPZ advising them of an emergency at Indian Point and to turn on the local Emergency Alert System (EAS) radio or television station.

Both reverse 911 systems employ an internet mapping capability for geographic targeting of calls coupled with a high-speed telephone calling system that can deliver customized pre-recorded emergency messages directly to homes and businesses. City Watch has the capability of delivering messages at the rate of approximately 4,000 calls per hour; whereas, Code Red can deliver messages at a rate of up to 60,000 calls per hour.

(7) Route Alerting
In the event that additional public notification (to include reported siren failures) is necessary, route alerting may be implemented. Route alerting is a secondary back-up means for alerting the public. Vehicles equipped with public address units would be dispatched to the area alerting residents to listen to the local Emergency Alert System (EAS) radio or television station. The Sheriff and Police Departments in the EPZ are provided with copies of route alerting procedures that include siren area coverage, the route to be run and the Indian Point Energy Center public address announcement.

(8) Additional Notification Systems

In the event that additional public notification is necessary, County officials can utilize the Community Radio Station 1640 AM.

(9) Alert and Notification System Testing Program

(a) Matrikon Siren System

The Alert and Notification System Testing Program consists of the Alerting Siren Testing Program and the Single Station Tone Alert Radio Testing Program.

Procedures detailing the testing and maintenance of the system are on file at the NFO.

(i) Bi-Weekly Silent Test

The bi-weekly silent test insures proper radio reception at the siren location. Upon receipt of a radio signal, which is transmitted from the County Emergency Operations Center or the County Warning Point, a verification signal is returned to the Emergency Operations Center indicating that the signal was received. If the signal is not verified, a technician is dispatched to diagnose the cause and repair the problem.

(ii) Quarterly Growl Test

Each quarter, the sirens in each county are sounded for approximately 10 seconds. This allows for a full system activation without full volume sounding of the sirens. Siren performance is monitored and a technician is dispatched to diagnose the cause and repair the problem.

(iii) Full Alert Siren Test

The entire siren system is tested at least annually to ensure operability. The sirens are sounded as if it were a real actuation with a four (4) minute duration. Siren performance is monitored at each county Emergency Operations Center as well as Indian Point. If a siren fails to activate or any perform properly, a technician is dispatched to diagnose the cause and repair the problem.

(iv) Annual Prevention Maintenance

During the annual preventive maintenance, the equipment at each siren is inspected. The inspection includes verification that all components are in proper working condition, and that antennas and electrical connections are in good condition. Any adjustments or repairs are made as needed according to the manufacturer's specifications.

(v) The Single-Station Tone Alert Radio Testing Program consists of the NFO contacting all recipients yearly, via letter. This letter advises recipients to determine the operability of the radio, radio locations, and verifies that the holder has determined operability using the monthly scheduled EAS test broadcast.

(b) ATI Siren System

Routine testing of the ATI siren system will be performed from the control stations. The following will be performed as a minimum as suggested in NUREG-0654 and FEMA-REP-10 and IPEC's Failure Modes and Effects Analysis:

- Routine polling will be performed to validate communications between control stations, towers, and sirens. Success will be confirmed by feedback to the control station.

- A weekly test of all sirens will be initiated from a control station to ensure the transmission path and the siren audio drivers are functional. Testing will be initiated from various control stations using typical communications paths. The test makes a brief sound, which is audible to the public. The siren test checks the communication with the sirens in addition to checking the audio drivers. Success will be confirmed by feedback to the control station.

- A quarterly growl (10-second activation) test will be initiated for each siren from a control station. Success will be confirmed by feedback to the control station.

- An annual full activation test will be conducted. The full activation is an alert activation, which produces 305 minutes tone. Success will be confirmed by feedback to the control station(s).

Additionally, the following testing will be performed:

- A silent test will be performed following preventative maintenance at a siren. Success will be confirmed by feedback to the control station.

- Additional testing will be performed by each county at their discretion.

(10) <u>The Emergency Alert System</u>

The Emergency Alert System (EAS) is a network of radio and television stations designed to give information to the public in the event of an emergency. The EAS system is accessed through the Westchester County Department of Emergency Services. Public notification over this system will include notification that a potential emergency situation exists, initial information or instructions, continued instructions on protective actions and follow-up information.

(11) In 2007, Rockland County partnered with the New York State Emergency Management Office and began utilizing **NY-Alert**. NY-Alert allows the County to provide notifications to select groups through a secure web portal. The website allows members of the public to subscribe to customized automatic updates via e-mails, fax, text messaging, and phone messages.

(12) Additional General Public, Transient Population and Special Population Notification

An Emergency Planning Brochure is mailed to all residents within the 10-mile EPZ on an annual basis and presents specific information on protective actions, including the use of Potassium Iodide as a thyroid agent, to be taken in the event that the prompt notification system (sirens) is activated. A condensed version of the brochure is contained in the Rockland County phone book.

The brochure contains a return postcard on which special needs, i.e., people with disabilities, confinement, medical impairments, etc., can be identified. This information is recorded by the Office of Fire and Emergency Services and special evacuation provisions are designed to accommodate these hardship cases on an individual basis. A special phone number will be announced in a news release to enable these individuals to request assistance during the emergency.

Hearing-Impaired Individuals, as identified by the Office of Fire and Emergency Services, will be contacted by telecommunications device for the deaf (TDD) by the Office for People with Disabilities.

Whenever possible, signs or other measures are used to disseminate appropriate information to the transient population within the 10-mile EPZ if an emergency occurs.

b. Notification of the General Public-When Initial Notification is of a General Emergency Classification Requiring Immediate Protective Action

Upon receipt by the County Warning Point that the initial notification from the NFO of an emergency is classified as a "General Emergency," the County Warning Point will coordinate siren activation with the other three county warning points. By mutual agreement, Orange, Putnam, Westchester, and Rockland Counties, and New York State have designated Westchester County the lead and Rockland County the alternate to coordinate the activation of the sirens. Three minutes following the siren activation, an EAS message will be aired advising the public in the five (5) mile radius surrounding the Indian Point Energy Center (IPEC) to take the protective action of "shelter-in-place" and to stay tuned for further instructions. "Evacuation" of the two (2) mile radius and five (5) mile downwind area around the IPEC will be recommended immediately following coordination among the four county executives, or their designees, of Westchester, Putnam, Orange, and Rockland County.

The lead County Executive shall seek the concurrence of the other County Executives, or their designees, to order the protective action of "Evacuation" of the two (2) mile radius and five (5) mile downwind area around the IPEC. This evacuation order shall be formulated in consultation with the lead county Commissioner of Health and shall include consideration of the NFO's recommended protective action, meteorological conditions, and other site-specific conditions.

The primary means of communication among the County Executives/Emergency Directors is the "Executive Hot Line", a dedicated voice multi-point telephone located in each of the four county EOCs and the State EOC. Back-up communication may be accomplished by either commercial telephone or by local government radio frequencies. The time required to accomplish this coordination will vary depending upon the time of day and circumstances surrounding the event.

6. Radiological Assessment and Evaluation of Protective Action Response Actions

a. Assessment

The Commissioner of Health has the following resources to use in assessing the impact that a radiological release incident at the Indian Point Energy Center can have on the general public of Rockland County:

(1) Population Data and Evacuation Time Estimates

Previously developed data available are the population distributions by Area and sector/zones around the IPEC as shown in Appendix B. In addition, evacuation timetables for different areas of the County and various contingencies such as normal/adverse weather conditions, day/night scenario, and school in session/not in session are available in Appendix C.

(2) Meteorological, Radiological, and Plant Data

Meteorological data is available from monitors at and around the IPEC, the National Weather Service, and the DEC Meteorologist at the State EOC. This data can be used to determine the actual and projected meteorological conditions for the County.

Radiological data is available from numerous fixed radiation monitors at and around the IPEC and from mobile radiation monitoring teams deployed by the NFO, Rockland County, the other counties in the EPZ, and if requested by the State, the U.S. Department of Energy of through the Radiological Assistance Plan (RAP) and Federal Radiological Monitoring and Assessment Plan FRMAP).

The Department of Health will dispatch a minimum of two two-person teams for the purpose of radiological monitoring. DOH or OFES vehicles are made available to the monitoring teams. Each team vehicle is in radio contact with

the EOC utilizing a pre-established frequency. DOH procedures detail the amounts and types of instruments used by team members. Monitoring kits have been equipped to insure the teams' capability to detect and measure radioiodine concentrations in air as low as 1E-7 micro curies/cc. It is estimated that teams will be in the field within one hour of notification.

Plant data is available from Containment Radiation, Release Rate, Temperature and Pressure Instruments. This data, along with Meteorological and Radiological data, is available through the Meteorological Radiological and Plant Parameter Data Acquisition System (MRP-DAS) computer in the EOC and over the telefax. Meteorological and plant data is also available over the RECS line.

In addition, the Department of Health will dispatch one pre-designated individual to the Indian Point Energy Center Emergency Operations Facility (EOF). This person will act as a liaison between utility and Rockland County Department of Health personnel and provide the most current information possible.

(3) Assessment Assistance

Nuclear safety specialists from the State, the Nuclear Facility Operator, the Nuclear Regulatory Commission, and the U. S. Department of Energy will be available to assist in providing an ongoing assessment and evaluation of the incident. This assessment will identify events, which have occurred, or are in progress, that may result in major failures of plant safety systems. The NFO will provide estimates of the time required to complete repairs and terminate any release.

(4) County Assessment Operations

Dose assessment calculations (of actual or projected conditions) are performed by the County Dose Assessment Team. These calculations may be performed by hand or by utilizing the PC-based dose assessment program. Both methods are described in procedure DOH-5. Upon review by the Dose Assessment Team Leader, calculations and recommendations for protective actions are provided to the County Commissioner of Health. The Commissioner of Health evaluates this information prior to submittal to the Emergency Coordinator. The Emergency Coordinator will utilize this information, along with other pertinent data, to make protective action decisions.

b. Evaluation

(1) Input Parameters

The evaluation of the impact on Rockland County of a radiological release incident at the Indian Point Energy Center determines the protective action response options (see Section 8) which should be implemented.

In evaluating which protective action response options to implement, the Emergency Coordinator will consider the following input data to establish a basis for his/her decision-making:

(a) Plant Conditions and Emergency Classification

Current plant conditions and emergency classification level can be obtained from the NFO via RECS and the DOH representative at the EOF.

(b) EPA Protective Action Guidelines

Protective Action Guidelines (PAGs) have been developed by the Environmental Protection Agency (EPA) to indicate appropriate responses during radiological emergencies. The EPA PAGs are shown in Table III-1. Note however, that Potassium Iodide administration may be ordered at the General Emergency Action Level.

(c) Projected Doses

The Health Commissioner and staff will determine the projected dose for potentially affected areas. These projected doses are compared to the PAGs to determine which protective action response options should be recommended. Projected dose is the total of the accumulated dose received since the beginning of the incident and the projected dose rates over the critical time frames for the estimated duration of the incident.

(d) Road and Weather Conditions

Current road and weather conditions are received from the Sheriff, the Highway Superintendent, the New York State Police, the Nuclear Facility Operator, and the National Weather Service.

(e) Critical Time Frames

The critical time frames to be identified for a particular incident are the implementation time frames for the various protective action response options.

In certain cases; however, consideration of critical time frames may not be appropriate. In the event of a severe accident where core damage and containment failure is imminent, the preferred initial protective action is to evacuate immediately approximately 2 miles in all directions from the

plant and approximately 5 miles downwind, unless other conditions make evacuation dangerous or unwarranted.

The recommendation to shelter-in-place the population in this case only applies to cases where there is assurance that the release from containment will be a short-term (puff) release of predicable duration and supporting meteorological conditions.

The implementation time frame for a particular protective action response option has two components - notification time and execution time.

Notification time is the time required to notify the population-at-risk and to deploy whatever emergency response personnel and equipment is necessitated by the particular protective action response option. Execution time is the time required, after notification, for the completion of the particular protective action response option. For example, the execution time to evacuate a certain area of the County when added to the notification time required to give the public instructions and deploy personnel and equipment will identify the critical time frame for that area.

(f) Status of Certain Facilities and Areas, Availability and Operability of Resources

The status of the following is also to be determined prior to any decision making:

* Schools, Parks, Special Facilities
* Availability of Transportation Resources
* Operability of Reception Centers/Congregate Care Centers
* Availability of Emergency Workers and Emergency Resources
* Operability of Public Notification System

(g) Nuclear Facility Operator Recommendations
The NFO will make recommendations for protective action to the County over the RECS line. The NFO recommendations are based on plant conditions and actual or projected doses.

(2) Decision Process
Based on information from previous paragraphs (a) through (g), the Emergency Coordinator is able to make a decision as to what protective action response option(s) should be implemented. This decision may be discussed and coordinated with officials of the State and other counties over the Executive Hotline Emergency Communications System.

TABLE III-1

EPA PROTECTIVE ACTION GUIDELINES*

PROJECTED DOSE (REM) TO THE POPULATION	RECOMMENDED ACTIONS
1 to 5 Rem (see note b)	Evacuation (or shelter-in-place - see note a). Evacuation (or, for some situations, shelter-in-place (a) should normally be initiated at 1 rem.
25 Rem (see note c)	Administration of stable iodine. Requires approval of State medical officials.

NOTES:

a. Shelter-in-place may be the preferred protective action when it will provide protection equal to or greater than evacuation, based on consideration of factors such as source term characteristics, and temporal or other site-specific conditions.

b. The sum of the effective dose equivalent resulting from exposure to external sources and the committed effective dose equivalent incurred from all significant inhalation pathways during the early phase. Committed dose equivalents to the thyroid and to the skin may be 5 and 50 times larger, respectively.

c. Committed dose equivalent to the thyroid from radioiodine.

* From Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA 400-R-92-001, May 1992

7. Radiological Exposure Control

a. Emergency Personnel

Emergency Personnel Radiological Exposure Control is necessary to monitor, minimize, and record the radiological exposure of County emergency response personnel. This includes individuals engaged in radiological monitoring, rescue of endangered or injured personnel, lifesaving activities, evacuation of affected populations, and protection of property to prevent damage or loss.

Emergency response personnel, including volunteers, may be exposed to radiation and/or be contaminated while performing their duties.

Measures will be taken to limit the radiation exposure of emergency workers to those values and conditions as described below and in Procedure DOH-4, Exposure Control Coordinator. Recommendations for emergency workers to incur exposures in excess of the EPA General Public Protective Action Guidelines are made by the Commissioner of Health and authorized by the Emergency Coordinator. Authorizations are documented on the Emergency Worker Permanent Dose Record Form.

Upon mobilization, emergency workers are provided, as appropriate, with electronic or self-reading dosimeters, Thermoluminescent Dosimeter (TLD), Potassium Iodide (KI), and other protective equipment.

Each worker performing emergency service functions inside the Plume Exposure Pathway periodically reads his/her dosimeter and records any exposures. Readings exceeding 1R (1 Roentgen) are recorded and reported to the individual's immediate supervisor. At readings of 3R or greater, the individual reports to his/her immediate supervisor and requests additional instructions on remaining in the area. The Commissioner of Health is informed of the situation and may recommend protective measures to reduce exposure, including the use of the radioprotective drug KI, or makes a determination on extending the individual's dose. If additional instructions on remaining in the area are not received by the emergency worker and his/her exposure reaches 5R the individual will notify his supervisor, so that he/she can be relieved and receive further instructions. Information on the use of KI is provided in Appendix H and Procedure DOH-8, Potassium Iodide Issue and Use.

Correction Factor for Internal Dose

The dose limits in EPA 400-R-92-001 are expressed in terms of the radiation dose equivalent received from external sources (EDE) and the committed effective dose equivalent (CEDE) due to the intake of the radionuclides during the emergency. The external component of the dose to emergency workers is measured using the personal monitoring devices issued to these workers. These include TLD badges and direct reading dosimeters. The internal component, on the other hand, cannot be directly measured and can only be calculated from a knowledge of the radionuclides in the release and estimates of

the intake of these radionuclides by the emergency responders. In the absence of information on these radionuclides, county staff should use a value of one (1) for the correction factor. The New York State Department of Health Staff will use available information on the release or plant status to determine the appropriate value of a correction factor to be used, and will communicate this value via telephone and/or fax to the dose assessment staff at the county Emergency Operations Center (EOC). When a value for the correction factor is provided to the county EOC staff, the New York State Department of Health may recommend that this value be used by the dose assessment staff when comparing the emergency worker dose to the appropriate PAG.

Radiological exposures received by all emergency workers are recorded and maintained in accordance with Procedure DOH-4, Exposure Control Coordinator. In conjunction with the NYSDOH, provisions for obtaining whole-body counts or bioassays are established for radiological evaluation of emergency personnel. Emergency workers will be briefed on the risks of prenatal radiation exposure prior to dispatch into the field and will be given the opportunity to declare pregnancy before being assigned for deployment.

One Personnel Monitoring Center (PMC) will be established for emergency workers. Monitoring and decontamination of emergency personnel and equipment will be performed in accordance with Procedure DOH-2, Personnel Monitoring Centers. Waste disposal shall be coordinated with the NYSDOH and the NFO.

b. General Public

Personnel Monitoring Centers within each Reception Center (see Appendix E) are designated for the general public to facilitate monitoring residents and transients arriving at the centers within a 12 hour period. In order to monitor 20% of the Rockland County portion of the EPZ population (23,639) within 12 hours, Rockland County has adequate handheld and portal monitors to accomplish this requirement. Additional support personnel for personnel decontamination, vehicle monitoring, vehicle decontamination, and registration are also available, if necessary. Reception Center personnel are from volunteer fire departments, Haz-Mat Team and the County Department of Social Services. New York State personnel are also available to supplement Rockland and Orange County staffs to process park transients of the Palisades Interstate Park, Harriman State Park, and Bear Mountain State Park, if necessary. (Details regarding NYS personnel are outlined on page III-38 of the NYS REP Plan.)

Evacuees arriving at the centers will be monitored and decontaminated, if necessary. Potassium Iodide tablets will also be made available to evacuees at entry points to reception centers. Decontamination of vehicles will be performed, if necessary, when time and manpower permits, i.e., if a large influx of contaminated vehicles occurs, vehicles may be parked in designated areas to await decontamination at a later time.

Monitoring and decontamination of the general public will be performed in accordance with Procedure DOH-2, Personnel Monitoring Centers. Waste disposal shall be coordinated with the NYSDOH and the NFO.

c. School Children
Monitoring facilities at select School Reception Centers are designated to facilitate monitoring school children evacuated, if necessary. School children will be monitored and decontaminated if necessary in accordance with the appropriate procedures. Radiological monitors assigned to each School Reception Center will perform the monitoring and decontamination.

d. Contaminated/Injured Individuals
Transportation for contaminated/injured individuals to appropriate medical facilities shall be provided by Rockland County EMS agencies as specified in Procedure EMS-2, Handling and Transport of Contaminated and/or Injured Individual to Medical Facilities.

Medical facilities capable of treating contaminated/ injured and/or overexposed individuals are listed in procedure EMS-2, Handling and Transport of Contaminated and/or Injured Individual to Medical Facilities.

8. Protective Actions
The following protective action response options provide the capability to effectively respond to any real or potential threat from a radiological emergency:

1. Initial Precautionary Operations
2. Selective Shelter-in-Place
3. General Shelter-in-Place
4. General Evacuation
5. Isolation of Ingestion Pathways and Sources
6. Potassium Iodide (KI) as a Thyroid Blocking Agent

More than one of the options may be implemented at the same time. Specific options can be implemented for certain populations or areas.

"All remaining Areas monitor the Emergency Alert System (EAS)" is an action that:

- Will always and only be used in conjunction with a recommendation for evacuation or shelter-in-place
- Is not intended to provide dose reduction
- May involve a variety of actions, including:
    - Listening to EAS
    - Collecting medications, important papers, etc.
    - Packing (in case it is later recommended to evacuate)

- Does not mean shelter-in-place
- Although it may be advisable to go indoors to monitor EAS in order to minimize traffic and other outdoor congestion, it is not required that the public go indoors in order to monitor EAS

"Shelter-in-place" is an action that:

- May be recommended by the licensee for short duration releases (defined as a release of one hour or less duration) during a General Emergency
- May be recommended by offsite response agencies for persons who should be evacuated but cannot because of impediments such as:
    - Transportation resource shortfalls
    - Dangerous travel conditions
    - Long mobilization times (special populations such as prisons, nursing homes, etc.)
- Would only be recommended during a General Emergency
- Would be taken for the purpose of reducing dose
- May involve a variety of actions, including:
    - Going indoors
    - Limiting outside sources of air
    - Making preparation to evacuate
    - Listening to EAS

"Evacuation" is an action that:

- Is defined as the urgent removal of people from an area to avoid or reduce high-level, short-term exposure, usually from the plume or deposited activity
- Would only be recommended during a General Emergency
- Would be taken for the purpose of reducing dose

The following table summarizes emergency decisions, protective actions and the expected pubic response to the recommended protective action.

Decision/Protective Action	Expected Public Response
No need for Protective Actions	No action
Evacuate specified Areas	Evacuate if located in the specified Areas
Shelter-in-place specified Areas or designated populations	Shelter-in-place if located in the specified Areas or designated populations: • Go indoors • Limit outside sources of air • Make preparation to evacuate • Listen to EAS
Monitor the EAS	Continue listening to EAS for additional information
Implement the KI plan	Follow provided direction regarding the use of KI

a. Initial Precautionary Operations
This option provides an effective initial protective action, which can easily be implemented, will facilitate the implementation of the other protective action response options and requires a minimal commitment of emergency response resources. The implementation and execution of this protective action may include the following:

(1) The temporary closing of all tourist areas such as parks and campgrounds in Rockland County. Actions regarding Bear Mountain and Harriman State Parks are coordinated with Orange County.

(2) The temporary suspension of non-critical patient admissions to Helen Hayes Rehabilitation Hospital, and Robert E. Yeager Health Center. (Agreements presently exist to facilitate an inter-hospital transfer of patients if it subsequently becomes necessary.)

(3) Notification of special facilities, e.g., nursing homes, hospitals/health care facilities.

(4) Consideration of available school (public and private, nursery and day care, elementary, middle, and high) alternatives: (School Superintendents or designees will notify private, parochial, and nursery schools within their district)

(a) If schools are not in session:
Close all schools in Rockland County until further notice.

(b) If schools are in the process of opening or are in session:

- Continue normal school session until the end of the school day, at which time students will be sent home in the regular manner (Buses may be held).

or

- Close all schools in Rockland County and send students home in accordance with each school's "Go Home Plan".

or

- Direct that the students and staff in the schools designated by the Emergency Coordinator shelter-in-place in the school facility.

or

- Relocate students to an alternate facility prior to a release.

or

- If the Emergency Coordinator determines that certain schools in the 10 mile EPZ should be evacuated directly to School Reception Centers, then he/she will order such action to be taken for the appropriate schools.

b. Selective Shelter-in-Place

Shelter-in-place is the protective action advising the public to seek shelter in a permanent, reasonably air tight structure until further notice. Additional instructions could include closing doors and windows, reducing outside air intake from heating and cooling systems, extinguishing fires and closing flues in fireplaces, and continuing to listen to their Emergency Alert Systems (EAS) TV and/or radio station.

This option is an effective protective action for individuals who could not be safely evacuated if it were necessary. These individuals include those who have been designated medically unable to evacuate as well as those individuals who require constant, sophisticated medical attention or are incarcerated.

The primary locations for implementing this protective action are the Helen Hayes Rehabilitation Hospital in West Haverstraw, the Robert E. Yeager Health Center in Pomona, and the County Correctional Facility in New City. The execution of this protective action should be implemented in accordance with the procedures developed for these facilities and other locations where there are members of the public for whom Selective Shelter-in-Place would be an appropriate action.

The implementation of this protective action requires that the Public Information Officer advise the public regarding the action to be taken and that the Special Facilities Coordinator and Sheriff notify the above mentioned facilities.

c. General Shelter-in-Place

This option is an effective protective action for the general public in the event of a puff-type radiological release. In addition, where evacuation might be the preferable response option but local constraints, such as evacuation time or highway impediments, dictate that directing the public to seek shelter is a more feasible and effective protective measure.

A puff-type radiological release is defined as a concentrated release of radioisotopes for a short-term and predictable duration. For an incident of this type, the most effective protective response action is immediate, temporary sheltering of the general public in the affected areas.

The implementation of this protective action requires that the Public Information Officer advise the public regarding the action to be taken.

d. General Evacuation

Evacuation is the protective action advising the public to leave an area until further notice and restricting access to that area.

This option provides for the capability to evacuate the general public from any or all affected or potentially affected areas within the Rockland County 10 mile EPZ.

The Evacuation Plan is based on the identification of both the population to be evacuated and the transportation resources required to accomplish this evacuation. Appendix D details the evacuation routes, traffic control points, traffic capacities, and evacuation time requirements for evacuating certain Areas. These evacuation times represent the estimated time required to evacuate an Area after the general public has been advised to evacuate. Because the population in the areas to be evacuated can vary, a total of 14 scenarios representing different seasons, time of day, day of week and weather have been developed as a means of characterizing the population shifts. Two special event scenarios are also included. These scenarios, which address variations in both the general population distribution and the special facilities (schools), include the following, and are detailed in Appendix C:

Scenarios	Season	Day of Week	Time of Day	Weather	Special Events
1	Summer	Midweek	Midday	Good	None
2	Summer	Midweek	Midday	Rain	None
3	Summer	Weekend	Midday	Good	None
4	Summer	Weekend	Midday	Rain	None
5	Summer	Midweek, Weekend	Evening	Good	None
6	Winter	Midweek	Midday	Good	None
7	Winter	Midweek	Midday	Rain	None
8	Winter	Midweek	Midday	Snow	None
9	Winter	Weekend	Midday	Good	None
10	Winter	Weekend	Midday	Rain	None
11	Winter	Weekend	Midday	Snow	None
12	Winter	Midweek, Weekend	Evening	Good	None
13	Winter	Weekend	Midday	Good	West Point Football
14	Spring	Midweek	Midday	Good	West Point Graduation

The implementation and execution of this protective action will include the following:

(1) General Public Evacuation

(a) Area to be Evacuated

The area within 10 miles of the Indian Point Energy Center has been divided into Areas. The Area in Rockland County are detailed in Appendix A. The resident population for each of the planning areas along with totals for the EPZ in each county are shown in Appendix B.

The designation of Areas provides the Emergency Coordinator with the flexibility to evacuate portions of the 10-mile EPZ by readily identifiable segments of the area.

(b) Evacuation Travel Time Estimates

After the Emergency Coordinator orders an evacuation, some members of the public will have been able to leave the 10-mile EPZ within 30 minutes or less. On the other hand, due to traffic congestion, availability of buses and special vehicles, weather conditions, etc., it could take a significantly longer period of time before the last person is outside the EPZ (see Appendix C for Evacuation Time Estimates). Nevertheless, most people will be traveling by automobile and the designated primary and secondary evacuation routes are able to handle a substantial amount of traffic. The evacuation travel time estimates (after mobilization) represent the time for the last vehicle in each Area to clear the EPZ

boundary. It should be noted that a substantial portion of the evacuating population will have left the EPZ well before the last vehicle leaves.

NOTE: Evacuation travel time estimates for Rockland County are fully addressed in the report "Indian Point Energy Center, Development of Evacuation Time Estimates", prepared by KLD Associates, Inc.

(c) Designation of Evacuation Routes
General public evacuation routes have been broken down into primary routes, secondary routes and feeder routes. Refer to Appendix D for full details.

(d) Establish traffic control
Traffic control has two basic objectives: to expedite the flow of traffic from the evacuating area, and to prevent entry of unauthorized individuals into the evacuated area. The methods used to accomplish this objective are described below:

* The Sheriff, Local Law Enforcement Agencies and the State Police will man traffic control points, within the limits of available manpower, along with the evacuation routes and incoming traffic routes at intersections in their jurisdictions they decide need such control. These intersections are detailed in Appendix D.

* Normal public transportation (buses and trains) will be suspended into the EPZ or affected areas.

* Temporary signs (such as directional arrows) may be placed at locations where the traffic control personnel or the permanent signs need additional reinforcement.

* Weather permitting, a helicopter will monitor traffic flow and provide updated information to the County EOC.

* Specified routes will be cleared and necessary measures to remove impediments to evacuation will be implemented, if needed. During radiological releases, County highway department trucks, snow plows, salt and sand spreaders will be deployed if necessary.

* Planned roadway construction or maintenance along evacuation routes will be reported to the County EOC on an ongoing basis so that traffic may be redirected in the event of an evacuation.

* Traffic flow outside of the EPZ will be directed to reduce the likelihood of severe congestion problems along the evacuation routes.

evacuation routes to follow, reception centers that have been established, and are referred to one or more of the following for additional information and assistance:

- EAS announcements and news releases
- Informational booklets that are mailed annually to every household in the 10 mile EPZ.
- Stickers that have been placed for transients in motels, parks and other recreational areas.
- Information and guidance on protective actions that are placed in telephone directories.
- A "Public Inquiry" telephone number is established for clarification of information.

(h) Reception Centers, Personnel Monitoring Centers, and Congregate Care Centers

* Prior to the recommendation for evacuation, the Emergency Coordinator will order the opening of pre-designated Public Reception Centers (see Appendix E) for those evacuees who may require assistance. Any or all Public Reception Centers could be opened as conditions warrant. Public Reception Centers register evacuees and provide them with temporary shelter, assistance and information, and provide a location for reunification with family members if congregate care is not needed. In general, Reception Centers are located at the end of evacuation routes at distances beyond the 10-mile EPZ. Bus transportation linking Reception Centers, Reception Centers to Congregate Care Centers, Congregate Care Centers, and School Reception Centers to Congregate Care Centers to facilitate the reuniting of families can be arranged as conditions warrant.

  Staffing of the Public Reception Centers will be by the Department of Social Services and supplemented by staff of other agencies and volunteers.

* Monitoring and decontamination for radiological contamination will be provided at a Personnel Monitoring Center (PMC), which is located at each Public Reception Center, by fire service personnel, or other qualified personnel, if necessary.

  If there has been no radiological release then evacuees not needing temporary shelter and assistance will be encouraged (by

media broadcast and emergency workers) not to report to a Public Reception Center, but to proceed directly to their planned destination.

If there has been a radiological release all evacuees from potentially affected Areas will be encouraged to report to a Public Reception Center for monitoring and decontamination, if necessary.

* For those evacuees requiring temporary housing, food and other assistance, transportation or directions to Congregate Care Centers will be provided at the Public Reception Center. For planning purposes, congregate care space is identified for 8-12% of the evacuating population. Congregate Care Centers will be staffed by trained Red Cross personnel utilizing standard Red Cross procedures for congregate care. Pre-designated facilities for congregate care will be opened on an as needed basis.

* Existing commercial telephone lines to the various facilities are the primary communication link to the County EOC. Communications with these facilities can also be provided by RACES.

(i) Security of Evacuated Areas

* As areas are evacuated, it will be necessary to provide for their security. This responsibility will be that of the Sheriff assisted by other local and State police agencies as they are available, and required.

* Personnel assigned to this task are provided with appropriate dosimetry, KI, and equipment.

* Security will normally be maintained by patrolling the evacuated area; however, if radiation levels should make such patrols hazardous, or if they cannot be undertaken because of manpower and equipment availability, security will be maintained by establishing check points and patrols around the perimeter of the area.

* Personnel manning the check points will verify an individual's authorization to enter an area. Authorization can be verified with the EOC if necessary.

(2) Special Population Evacuation

(a) School Evacuation

As stated in Section 8.a, if the Emergency Coordinator determines that certain or all schools in the 10 mile EPZ should be evacuated directly to School Reception Centers, he/she will order such action to be taken for the appropriate schools. School superintendents or their designee will notify public, private, parochial and nursery schools within their district.

A School Reception Center is a temporary facility whereby school children will be retained until they can be:

- picked up by their parents or designees, or
- transported to a Congregate Care Center

A list of School Reception Centers is provided in Appendix E.

Administrators and staff of evacuating schools will assign and load children onto buses. School staff will accompany students during an evacuation. School administration and faculty accompanying school children to the School Reception Center will maintain records of children's names, persons picking them up, and their destinations upon leaving.

The School Reception Centers will remain in operation until all children have been reunited with their families or until other arrangements are made.

(b) Evacuation of Special Facilities

* The types of facilities given special consideration for evacuation are nursing homes; hospitals; health care facilities; County jail; County, State and Palisades Interstate Parks; recreational areas; and camps.

* The generic evacuation plan for each type of special facility is summarized below:

  - Nursing Homes:
    Nursing homes are required to have disaster plans for any type of emergency. These plans will be adapted as necessary for a radiological emergency. In general, nursing home residents are likely to be impaired to some extent and walking to an evacuation bus pickup point would be a hardship. Therefore, adequate numbers of buses and other vehicles will be assigned to supplement any available facility owned vehicles to transport nursing home residents from each home to pre-designated host

facilities. Nursing home staff should assemble the necessary clothing, records, and medications to accompany the residents and some number of staff should remain with the residents during evacuation and at host facility.

Monitoring personnel, to monitor and decontaminate the residents if necessary, will be dispatched to the host facilities as required or appropriate.

Host facilities for nursing homes will be identified by the facility operators in cooperation with and subject to review by the New York State Department of Health. Residents of proprietary and not-for-profit homes for adults will be relocated to Public Reception Centers.

If evacuation is ordered, the Special Facilities Coordinator will notify the nursing homes to initiate mobilization (i.e., assemble supplies/records and ready patients). Since their mobilization time requirements are generally longer than for the general population, immediate mobilization will permit some patients to be ready when vehicles begin to arrive and, therefore, may help decrease the overall evacuation time.

- Hospitals and other Health Care Facilities: Each hospital and healthcare facility is also required to have a general disaster plan. These are adapted, as necessary, for a radiological emergency to provide that those in the 10-mile EPZ will designate a hospital beyond the EPZ boundary for the relocation of its patients requiring hospital care.

  Sources of buses, wheelchair vehicles, and ambulances are identified to transport patients from specific hospitals to their host facility making multiple trips as required. As necessary, buses and wheelchair vehicles will be pre-assigned to evacuating facilities, while ambulances will be assigned at the time of evacuation, as necessary and available.

  Supplies and patient records (or ward charts) will be assembled and taken by staff members accompanying the patients to their respective host facility.

  Monitoring personnel, to monitor and decontaminate the residents if necessary, will be dispatched to the host facilities as required or appropriate. The host facility's Departments of Radiology and Nuclear Medicine, if available, can also be utilized to perform the monitoring and decontamination of the residents.

If evacuation is ordered, the Special Facilities Coordinator will notify the hospitals/health care facilities to initiate mobilization (i.e., assemble supplies/records and ready patients). Since their mobilization time requirements are generally longer than for the general population, immediate mobilization will permit some patients to be ready when vehicles begin to arrive, and therefore, may help decrease the overall evacuation time.

- Parks and Recreational Areas: The Palisades Interstate Park (PIP) System having significant acreage and visitor attendance is considered specifically in the evacuation plans and procedures.

  Local, smaller parks and recreational areas have neither the remote visitor needs nor the sizeable attendance figures to require special planning.

  As an initial precautionary measure at the Alert level, all parks in Rockland County may be closed. In the event of park closure, the PIP alerting plan may be implemented as outlined in Procedure PIP-1, New York State Park Police Emergency Response Actions. Visitors will be instructed to leave the park and to listen to the EAS system, if activated, for further instructions.

  If a general public evacuation is imminent or has begun, visitors will be instructed to leave the EPZ immediately using the pre-designated evacuation routes.

  Portions of the Palisades State Park, Harriman State Park and Bear Mountain State Park are located in both Orange and Rockland Counties. Since the larger portion of the population lie within Rockland County, the County Executives of Rockland and Orange Counties have agreed that the Rockland County Executive will make the recommendation for protective actions in those Areas.

  Rockland residents evacuating from these Areas are mostly employees of the Bear Mountain/Harriman State Parks and their families. The families will be sent to Reeves Meadow Visitor's Center upon order to close the parks. In the event of an order to evacuate, these individuals will go to Rockland County Reception Centers.

- Camps: Schools and camps are mutually exclusive. When camps are in session, schools are not in session (with the exception of summer school). Camps would be directed to follow the same available options considered for schools. Camps will evacuate using the vehicles normally available to them and may request additional vehicles, if necessary. Camps in need of additional transportation will be provided with vehicles normally available for school evacuations, which will transport the campers/residents to the appropriate Camp/School Reception Center (see Appendix E).

(c) Non-Institutionalized Mobility Impaired Persons:
Non-institutionalized mobility impaired persons are those individuals that reside at home and require special transportation due to their physical disability. These individuals are identified by the mail-in postcard that is furnished as part of the emergency public information booklet, which is distributed annually to the EPZ population. Each of these booklets contains a postage free card, which enables the recipient to identify physical disabilities requiring special transportation assistance.

A current listing of such individuals is maintained and updated annually by the Office of Fire and Emergency Services. Transportation arrangements for these individuals are provided as required.

Non-institutionalized mobility impaired persons with their own transportation arrangement will evacuate by automobile, bus or special vehicle in accordance with the general public instructions.

If, during an emergency, someone needs help who has not returned their card, the Emergency Alert System will provide them with instructions to call a designated telephone number for assistance. Telephone requests for non-institutionalized mobility impaired persons requiring transportation will be handled through the Office of Physically Handicapped and coordinated with the Department of Public Transportation and the EMS Coordinator.

e. Isolation of Ingestion Pathways and Sources
The State of New York is responsible for the execution of the isolation of ingestion pathways and sources response option contained in the State of New York Emergency Response Plan. The County Department of Health, along with assistance from other agencies, will coordinate its activities with the NYSDOH to implement this option.

This option is an effective protective action to ensure that the potential for individuals to receive radiological doses in excess of recommended limits

through the various ingestion pathways is minimized. This would involve control of radioactive contaminated drinking water and food.

(1) Upon receipt of radiation monitoring results which indicate contamination of a drinking water supply or food (ingestion of which could exceed recommended limits), the State Commissioner of Health and the State Commissioner of Agriculture and Markets shall immediately quarantine such food and ban the consumption of such water.

(2) Based upon additional examination, if isotopic concentrations exceed those specified in Procedure DOH-6, Recommendations for Protective Measures, the Emergency Coordinator shall review the situation with the Commissioner of Health and the New York State Department of Health and provide necessary assistance to the State in implementing further protective actions.

f. Potassium Iodide (KI) as a Thyroid Blocking Agent
This protection action option provides the general public with a safe and effective means to block uptake of radioiodines by the thyroid gland in a radiation emergency. The County Commissioner of Health will order the use of Potassium Iodide for the general public in the impacted areas and emergency workers within the EPZ when a General Emergency Action Level is declared. Additional guidance on the use and distribution of Potassium Iodide is provided in procedures DOH-6, DOH-8 and DOH-12.

C. EMERGENCY ORGANIZATION AND RESPONSIBILITIES
The organizational structure is shown on Table III-1 and is outlined in the following paragraphs. It consists of existing Rockland County agencies and appropriate private organizations. A titled individual from the agency/organization has the lead responsibility for each of the emergency response activities and is responsible for coordinating the support agencies/ organizations involved in each response activity.

1. Command and Control
Mission Statement: To direct the county's response, assign missions and tasks, direct courses of action which control the operation, and provide resource continuity for the County's response efforts.

Lead Responsibility: The Emergency Coordinator. The County Executive of Rockland County is designated as the Emergency Coordinator.

Support: Director of the Office of Fire and Emergency Services

Note: When the State of New York issues a State Disaster Declaration, the State assumes control of the emergency.

2. Emergency Operations Center (EOC) Operations
Mission Statement: To provide coordination of operations and administrative activities at the County Emergency Operations Center (EOC).

Lead Responsibility: Emergency Planning Director (CDFES)

Support: EOC Administrative and Support Staff

3. Communications
Mission Statement:
   a. To provide communication facilities and personnel in the County Emergency Operations Center to interface with the Nuclear Facility Operator, the State of New York, affected county and local governments, and appropriate Federal agencies.

   b. To activate the systems for notification of key personnel who respond to a radiological emergency.

   c. To provide facilities and personnel to support the emergency communication needs of the Radiological Response Organization.

   Lead Responsibility: Director of the Office of Fire and Emergency Services (CDFES)

   Support: County Sheriff
   EOC Administrative and Support Staff
   Radio Amateur Civil Emergency Services (RACES)
   Law Enforcement, Fire and EMS Agencies
   EMS Coordinator
   Deputy Fire Coordinator

4. Alert and Notification of the Public
Mission Statement: To provide notification to the residents of Rockland County by activation of the Alert and Notification System and by implementing supplemental route alerting, if necessary.

   Lead Responsibility: County Sheriff

   Support: New York State Park Police (route alerting in Palisades Park)
   Local Law Enforcement Agencies (supplemental route alerting, etc.)
   Pilot, Helicopter Emergency Lift Program (HELP)
   County Public Information Officer (coordination of EAS Message)
   County Office for People with Disabilities

5. Public Information
Mission Statement: To provide emergency planning information and essential information at the Joint Information Center during radiological emergencies. To

coordinate this information with the NFO, other government agencies and the news media. To coordinate Public Inquiry and media inquiry programs.

Lead Responsibility: County Director of Communications (JIC PIO)

6. Radiological Assessment
Mission Statement:
   a. To assess and/or monitor the offsite consequences of a radiological release and to coordinate radiological monitoring activities.

   b. To propose (to the Emergency Coordinator) the proper protective action response options to be implemented, based on the protective action guides and projected doses, dose rates, contamination levels, and levels of airborne and waterborne radioactivity.

   Lead Responsibility: Rockland County Department of Health

7. Protective Response Determination
Mission Statement: To determine the proper protective action response option to be implemented. These response options are based on the protective action guides, projected doses, dose rates, contamination levels, levels of airborne or waterborne radioactivity, and critical time frames. The initial recommendations concerning protective actions to be taken will be made by the Nuclear Facility Operator to the Emergency Coordinators of the four Counties and the State. Each of the protective action response options is described in a previous section.

   Lead Responsibility: Emergency Coordinator

   Support: Rockland County Department of Health
   Director of the Office of Fire and Emergency Services

8. Radiological Exposure Control
Mission Statement: To control and minimize the radiological exposure of emergency response personnel and potentially affected members of the general public. Activities which are required under this function include, but are not limited to, the following:

   a. Protecting emergency personnel from excessive exposure to radiation.

   c. Performing radiological monitoring of emergency workers and evacuees, including recording estimates of radiological exposures, and performing decontamination if necessary.

   c. Providing guidance on exposure control, including providing guidance to the Emergency Coordinator on decisions for emergency workers to exceed established exposure guidelines.

d. The use of Potassium Iodide as a thyroid blocking agent for emergency workers and the general public.

Lead Responsibility: Rockland County Department of Health
Emergency Coordinator

Support: Local Fire Departments
County Sewer District

9. Law Enforcement and Traffic Control
Mission Statement: To provide traffic direction and control; to provide for citizen safety; to maintain law and order; to protect public and private property during emergency operations; to provide protection for critical facilities and evacuated areas, to control access to risk areas; and to close and clear all parks and recreation areas.

Lead Responsibility: County Sheriff

Support: Local Law Enforcement Agencies
New York State Park Police
New York State Police

10. Fire and Rescue Services
Mission Statement: To limit the loss of life and property which could result from fire or other causes; to lead search and rescue efforts; to rescue trapped and injured persons; and to ensure fire prevention and suppression.

Lead Responsibility: Deputy Fire Coordinator

Support: Local Fire Departments
Helicopter Emergency Lift Program (HELP)

11. Emergency Medical Services
Mission Statement: To coordinate and provide emergency medical aid and transport for the ill, injured, and mobility impaired. Transport contaminated/injured individuals to designated medical facilities. These activities include establishing a coordinated communications link between medical support facilities and ambulance vehicles. Rescue services may be required in conjunction with the fire service.

Lead Responsibility: EMS Coordinator

Support: EMS Agencies and Commercial Providers
Local Fire Departments
County Office for People with Disabilities

12. Hospitals and Medical Facilities

Mission Statement: To provide for the protection of patients in hospitals and medical facilities, this may include preparing patients, equipment and personnel for removal from hospitals, nursing homes and other medical care facilities in the risk or affected areas.

Lead Responsibility: Special Facilities Coordinator

Support: EMS Coordinator
Local EMS Agencies and Commercial Providers
Commissioner of the Department of Public Transportation

13. Highways

Mission Statement: To provide overall coordination of engineering activities for the construction, rehabilitation, and repair of essential roadways and facilities in order to support and maintain emergency services. Activities which may be required under this function include, but are not limited, to the following:

a. Coordinating debris clearance, the removal of other impediments to evacuation and the making of emergency repairs to roads and bridges.

b. At the request of the police, establishing and maintaining traffic control barricades.

Lead Responsibility: Superintendent of Highways

Support: County, Town, and Village Public Works and Highway Departments

14. Transportation

Mission statement: To provide transportation services for the delivery and distribution of supplies and for people without the resources to transport themselves. The services provided under this activity exclude those described in association with rescue and law enforcement operations.

Lead Responsibility: Commissioner of the Department of Public Transportation

Support: Private and Public Transportation Companies
Local EMS Agencies and Commercial Providers
County Office for People with Disabilities

15. Public Reception Center Operation

Mission Statement: To provide and coordinate the resources essential to provide evacuees with initial assistance; such as registration; other processing; first aid; and disposition to a Congregate Care Center or medical facility.

Lead Responsibility: Commissioner of the Department of Social Services

Support: Rockland County Department of Health, Public Health Nurses (First aid and medical advice)
Sheriff (Traffic control and security)
Local Law Enforcement Agencies (Traffic control and security)
American Red Cross (Liaison to Congregate Care Centers)
Local Fire Departments
County Department of Mental Health
Radio Amateur Civil Emergency Services (RACES)
Schools Coordinator
Local Schools

16. Bergen County (NJ) Operations
Mission Statement: To coordinate the Rockland EOC and Bergen EOC communications and response activities.

Lead Responsibility: Rockland County Liaison at Bergen County

Support: Bergen County Liaison at EOC
Bergen County Office of Emergency Management

17. Congregate Care Center Operation
Mission Statement: To provide and coordinate the resources essential to provide evacuees with assistance and basic human needs such as: registration and inquiry, temporary shelter; food, clothing and financial assistance; and to furnish information or counseling in personal family problems due to inability to re-enter areas because of radiological considerations.

Lead Responsibility: Director/Assistant Directors American Red Cross NY Regional Office

Support: Department of Social Services (Financial and Counseling)
Radio Amateur Civil Emergency Services (Communication)
Bergen County Office of Emergency Management (Coordinate access to facilities)
County Department of Mental Health

18. Schools
Mission Statement: Notify public, parochial, and private schools, and nursery and day care centers of the emergency declaration. Implement protective action orders to provide for the protection and/or return to their families of students who are in school, or in transit, at the time a radiological emergency occurs.

Lead Responsibility: Schools Coordinator

Support: Commissioner of the Department of Public Transportation
Public and Private Transportation Companies
District School Superintendents
Parochial and Private School Administrators
Bergen County Office of Emergency Management

19. Legal Council

Mission Statement: To render advice and opinions to the County Executive with regard to continuity of government, and interpretation, application and implementation of NYS Executive Law Article 2B Civil Emergency Laws, other relevant laws and regulations and orders of the State Disaster Preparedness Commission.

Lead Responsibility: County Attorney

20. Adjunct County Operations

* Personnel

Mission Statement: To provide manpower resources to support the continuation of operation of the County government and emergency operations.

Lead Responsibility: Commissioner of Personnel

* Purchasing

Mission Statement: To provide expedient methods of obtaining emergency equipment and supplies to County agencies and the County Executive.

Lead Responsibility: Commissioner of Purchasing

* Budget

Mission Statement: To provide advice to the County Executive on emergency funds available and maintain records of employee utilization, equipment use, and contracted agreements made during the emergency.

Lead Responsibility: Director of Budget Department

Mission Statement: To provide up-to-date information on County conditions, i.e., population, building construction.

Lead Responsibility: Commissioner of Planning Department

TABLE III-2

P-Primary S-Secondary	Responsibilities																									
Rockland County Agency	Command And	EOC Operations	Communication	ALERT AND NOTIFICATION	Public Information	Rad Assessment	Protective Response	Exposure Control	Law Enf & Traffic	Fire and Rescue	EMS	Hospitals & Med Fac	Highways	Transportation	Reception Center	Bergen Co. Ops	Congregate Care	Schools	Legal	Personnel	Purchasing	Budget	Planning
Emergency Coordinator	P						P																
Emer Planning Dir (CDFES)	S	P	P				S																
EOC Admin. & Staff		S	S																				
County Sheriff			S	P					P						S								
RACES			S												S		S						
NYS Park Police				S					S														
Local Law Enf Agencies			S	S					S						S								
HELP				S						S													
PIO - JNC & EOC				S	P																		
County Health Dept.						P	S	P							S								
State Police									S														
Deputy Fire Coordinator			S							P													
Local Fire Depts.			S					S		S	S				S								
EMS Coordinator			S								P	S											
EMS Agencies			S								S	S		S									
Special Facilities Coor.												P											
Dept. of Highways													P										
Local Highway Dept.													S										
Pub. & Private Trans. Co.														S				S					
Office of Aging																							
Ofc for People 'w Disabilities				S							S			S									
American Red Cross															S		P						
Schools Coordinator														-	S			P					
Mental Health Department															S		S						
Inter-County Liasion																S		S					
Rockland Liaison at Bergen																P							
Local Schools															S			S					
County Attorney																			P				
Social Services Dept.															P		S						
Comm. Of Public Trans.												S		P				S					
Bergen County OEM																S	S	S					
Commissioner of Personnel																				P			
Comm. Of Purchasing																					P		
Director of Budget																						P	
Sewer District								S															
Planning		S	S					S															P

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

TABLE OF CONTENTS

(NOT USED)

PART I

SECTION IV - RECOVERY

A. Mission

The mission of this section is to describe details of those short term recovery/ reentry and long term recovery operations which are unique to radiological emergencies and to provide the Emergency Coordinator with the capability of implementing the safe reentry to their places of residence and/or employment of the members of the general public who have been relocated under one of the protective action response options described in Section III.B.8.

The recovery phase is the final stage of the emergency preparedness system. During recovery, a planned effort is made to restore the normal quality of life to the community. Operationally, recovery begins during the response phase and continues until the restoration of community life has been completed.

Recovery operations for radiological emergencies consist of two operational parts. They are:

1. Short Term Reentry Operations:

   Reentry from a radiological emergency shall commence only after all emergency initiating conditions have ended and the threat to public health and safety from a release of radiation no longer exists. The following shall be confirmed before initiating reentry operations:

   a. Safe shutdown of the nuclear facility.
   b. Radiological materials are under controlled confinement.
   c. Initiating physical phenomenon has been stabilized (e.g., pressure relief from geological fault).

2. Long Term Recovery Operations:

   Aside from long term radiation and medical monitoring programs, long term recovery operations are generic to all emergencies. For details and guidelines for the implementation of long term recovery operations, refer to the New York State Disaster Preparedness and Radiological Emergency Preparedness Plans. (See Attachment 1 to this section.)

B. Recovery/Reentry Operations

Recovery/Reentry Operations will conform with the guidelines contained in the New York State Radiological Emergency Preparedness Plan and will include the following:

1. Completion of radiation surveys by the County Department of Health and the New York State Department of Health which indicate that contamination levels in an evacuated area are within acceptable contamination action limits pre-established by the New York State Commissioner of Health. In areas, which have been contaminated, the County Department of Health and the New York State Department of Health may direct that reentry be allowed to all but specially restricted areas. Federal radiological monitoring and assessment assistance is also available as required.

2. Determination that a threat to public health as a consequence of any further release of radiation no longer exists.

3. Assessment and mitigation of the effects of an evacuation on public health and sanitation within the evacuated areas.

4. Completion of County and State Departments of Health directed decontamination activities, including waste disposal, with assistance from local emergency response agencies, the NFO, State and Federal agencies.

5. Notification to police agencies manning incoming traffic control check points of the areas for which reentry is authorized and the realignment of the traffic control perimeter.

6. In conjunction with the County, State of New York, the Federal Government and the Nuclear Facility Operator, the preparation and issuance of announcements to the communications media (e.g., newspapers, radio and television stations) and to Reception/Congregate Care Centers specifying the areas which may be reentered.

7. Continuation of security for evacuated areas, including those for which reentry has been approved, to prevent unauthorized entry and vandalism.

8. Provision of transportation for those individuals requiring it during reentry.

9. Distribution of drinking water and food, if necessary, to implement the isolation of ingestion pathways and sources.

10. Establishment of a long term radiation monitoring program for any contaminated County areas.

11. Collection of emergency worker exposure control information including dosimetry readings, decontamination documentation, and internal exposure information, if any.

12. Establishment of a long term medical monitoring program for both the general public and emergency response personnel of the County.

C. Long Term Recovery

The implementation of long term recovery operations is the primary responsibility of the State of New York, and will conform with the guidelines contained in the New York State Radiological Emergency Preparedness and Disaster Preparedness plans. The County will provide support to the State upon request.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

Attachment 1

New York State Radiological Emergency Preparedness Plan
Intermediate and Late Phase Plan

1.0 INTRODUCTION

The intermediate phase of an accident at a nuclear power plant is defined as that period beginning after the source and releases have been brought under control and environmental measurements are available for use as a basis for decisions on protection actions.

During this phase the primary source of exposure to the population is assumed to be due to deposited radionuclides which includes the following pathways:

- o external gamma radiation from deposited radioactive materials or groundshine which is expected to be the dominant source;
- o internal exposure from inhalation of resuspended materials;
- o ingestion of food and water (covered in Section III of the NYS REP Plan);
- o beta radiation; and
- o direct ingestion of contaminated soil.

During this phase of an accident, protective actions responses will include restrictions on food and/or water (covered in Section III of the NYS REP Plan), and relocation. It is expected that this phase of an accident might last from weeks to many months.

The late phase of a nuclear power plant accident consists of recovery activities aimed at reducing radiation levels in the environment so as to permit unrestricted, long-term use of property. This phase of the accident, which may last from months to many years, ends when all recovery activities have been completed.

As provided by the New York State Emergency Operations Plan, a Recovery Committee having authority and major responsibilities to make decisions relating to intermediate and late phase activities will be appointed by the DPC. This committee will be comprised of representatives of the Commission's membership, and such other agencies as the Commission Chairman may designate. Specifically included will be representatives of the

Departments of Agriculture and Markets, Commerce, Health, Environmental Conservation, Labor, Social Services, State, Transportation, Office of General Services, State Energy Office, Public Service Commission, Division of State Police and Division of Military and Naval Affairs/SEMO. Response organizations will be notified that recovery activities are being initiated. This will be accomplished utilizing the Executive Hotline, the RECS line, EOC briefings, and press releases.

2.0 RESPONSIBILITIES

The Committee is responsible for directing State resources and intermediate and late phase activities and for assisting in the total cooperative effort involving any or all of the other organizations having recognized roles in intermediate and late phase operations. During intermediate and late phase operations the Committee is responsible for developing practical time parameters and activities consistent with this plan, and insures that there are adequate communications systems and processes for all State activities. The Committee reports to the DPC and keeps it apprised of all matters relating to the recovery effort.

The New York State Commissioner of Health continues to have the primary responsibility for recommending protective actions i.e. relocation; for overseeing the total related radiological program including recovery activities; for modifying, and relaxing protective actions including allowing the reentry of evacuated or restricted areas; and discontinuing protective actions allowing the return of the evacuated population.

The Director of the State Emergency Management Office (SEMO) coordinates State and Federal assistance and programs with perceived needs and the requests of the local jurisdictions.

Local Chief Executives assess the needs of their affected areas in conjunction with the State Emergency Management Office. They direct intermediate and late phase operations in their jurisdictions. State directed intermediate and late phase operations and protective actions are coordinated with the respected jurisdictions.

The Governor may appoint a Recovery Planning Council (as designated by Title VIII, Section 802 of the Public Works and Economic Development Act of 1965, as added by Title V of Public Law 93-288 - "The Disaster Relief Act of 1974") to help determine local needs in the recovery effort.

3.0 RELOCATION OPERATIONS

Before assessing relocation and/or reentry of the public it is necessary to insure that the source of the release or the threat of a release is under control. Accident Assessment staff considerations include:

- o whether there is a radioactive material inventory capable of being released offsite;

- o if barriers to a release are threatened by fire, facility control, the presence of hydrogen or other explosive gas, core melt through, pressure build up (decay heat), direct containment heating (high pressure melt through), or isolation failure;

- o whether the reactor is shutdown (subcritical) and whether or not it can go critical; and

- o whether the core is being cooled.

Based on analysis of survey results including aerial monitoring data, Aerial Measuring Service (AMS), ground monitoring (State, county and NFO field team data), and sample isotopic analysis, Accident Assessment staff will determine the location of the isodose line corresponding to the relocation PAG (> or = 2 rem- first year). Relocation PAGs are outlined in Table 1.

Based on Accident Assessment recommendations, and in consultation with local officials, the Commissioner of DOH will order the establishment of a restricted zone, which will include that area in excess of the relocation PAG and an appropriate buffer zone. Buffer zone considerations include geopolitical boundaries, major roads and landmarks, neighborhood boundaries, as well as the potential for transport of the deposited radionuclides.

Division of State Police in conjunction with county and local police agencies will identify control points necessary to control ingress and egress to the restricted zone.

The Committee, and specifically the Human Needs Task Force, in coordination with appropriate federal, county and local agencies, will implement the relocation order and address the various needs of the relocating population including short and long term housing, job loss, replacement of belongings, and any special needs that may arise. To the extent possible, human need services, federal disaster assistance, and NFO insurance assistance will be coordinated at Disaster Assistance Centers located as to be convenient to the relocating population. Priority will be given to relocation of persons in the highest exposure rate areas. Persons previously evacuated from areas now determined to be restricted will be designated as relocated.

Additional monitoring/decontamination stations will be established to support control of the restricted zone.

4.0 RETURN OF GENERAL POPULATION TO EVACUATED AREAS

Persons previously evacuated from areas, which have not been contaminated, will be allowed to return. Return orders will be formulated in conjunction with the local chief executive(s) and shall be issued via media releases and announcements at reception centers and congregate care centers. Transportation for transit dependent members of the returning population will be arranged.

Persons evacuated from contaminated areas outside the restricted zone will be allowed to return on gradual basis as confidence is gained from sample analysis and field measurements that relocation PAGs (Table 1) will not be exceeded.

Factors being considered prior to allowing the return of evacuees include:

- o sampling and monitoring results;
- o status of decontamination activities;
- o public safety status including police, fire and EMS capabilities;
- o availability and operability of public utilities including electric power, gas, telephone, water and sewer;
- o adequacy of transportation systems and network; and
- o any other needs identified by the State Human Needs Task Force.

5.0 REENTRY OPERATIONS

Following the establishment of a restricted area it may be deemed prudent by the Commissioner of DOH, in conjunction with local officials, to allow temporary reentry into the restricted zone. Reentry can be allowed for any of the following reasons:

- o retrieval of personal belongings or property by members of the population being relocated from the restricted zone;
- o security patrols;
- o the reestablishment or operation of vital services including fire department operations, EMS, water or sewage control facilities, utility operations, or critical businesses or industries; and
- o care and feeding of livestock;

Restricted zone perimeter ingress and egress control points will be established prior to allowing reentry.

Monitoring and decontamination centers will be established to support reentry operations.

Efforts will be undertaken utilizing state and local resources to decontaminate access ways and facilities.

Persons allowed to reenter the restricted zone will be issued permanent record or direct reading dosimetry, and will be advised to control their exposure and limit the spread of contamination. Known areas of highest exposure rate will be pointed out.

Persons and equipment exiting the restricted zone will be monitored and decontaminated as required.

Exposures to persons reentering the restricted zone will be limited to normal occupational limits for workers exposed to radiation (see Table 2).

6.0 RECOVERY OPERATIONS

The Committee, in conjunction with local officials, will establish a long-term plan for the decontamination of contaminated areas. Decontamination efforts will include:

- o scrubbing and/or flushing of hard surfaces; and
- o soaking, plowing and/or removal of soil.

A radiation-monitoring program for contaminated areas will be established by the State Commissioner of Health. This monitoring program may be long term depending upon the type, levels, and extent of the contamination. The monitoring will also take into account the nature of the contamination as well as the area affected. Future activities affecting release of radiation (venting, etc.) will also require monitoring. Other State agencies will cooperate and assist the Department of Health in monitoring for long-term effects. Monitoring programs initiated during the response phase will continue during recovery until acceptable levels are reached.

As efforts are completed it may be possible to tighten the boundaries of the restricted zone as recommended by the Commissioner of DOH.

7.0 PUBLIC INFORMATION

Dissemination to the public of information pertaining to

intermediate and late phase actions commences after consideration has been given to the following factors:

- The status of the services and conditions enumerated in the preceding portion of this plan. This includes information and guidance on methods the public should employ to overcome existing deficiencies, i.e., sources of emergency water supplies, restrictions on use of all non-canned foodstuffs, etc.

- The consistency of public announcements between all levels of government. The State, County and Utility PIOs coordinate such releases with each other before they are issued.

- The methods by which these announcements are made depends in large part on the existing situation and the affected areas. Television and commercial radio broadcasts are the primary means of dissemination. Follow-up newspaper articles are also used. In special cases printed handouts and voice communications are used for Congregate Care Centers and similar facilities.

8.0 NONTECHNICAL ASSISTANCE

State and Federal assistance can be made available to assist affected counties in recovering from the effects of a radiological emergency.

Article 2-B of the New York State Executive Law provides that when the Governor declares a disaster emergency for an affected area he may direct any and all agencies of the State government to provide assistance under the coordination of the DPC. Such State assistance may include:

- utilizing, lending, or giving to political subdivisions, with or without compensation; therefore, equipment, supplies, facilities, services of State personnel, and other resources, other than the extension of credit;

- distributing medicine, medical supplies, food and other consumable supplies through any public or private agency authorized to distribute the same;

- making such other use of their facilities, equipment, supplies and personnel as may be necessary.

The Chief Executive Officer of any affected county which has need of Federal disaster assistance accumulates and submits thorough SEMO Regional Office to the Director, SEMO, data as required by Public Law 93-288 and appropriate regulations. This data will be submitted to the Governor through the Recovery Committee and the Chairman of the Disaster Preparedness Commission with a recommendation as to whether the Governor should request the President to declare an Emergency or Disaster as defined by Public Law 93-288. If such a request is made and granted, the Federal assistance which will then be provided would be administered by the Director, SEMO, for the Recovery Committee, appropriate State agencies and local governments in accordance with procedures adopted for use in administering Federal aid for any other type of an emergency or disaster declared by the President.

In instances where a Presidential declaration is either not requested or granted, specific types of Federal assistance may be provided by individual Federal agencies acting within their own statutory authorities. The Governor may request such assistance, based on recommendations of the Director of the State Emergency Management Office and the Recovery Committee which will be submitted through the Chairman of the Disaster Preparedness Commission.

Medical follow-up to monitor the effects of radiation on the public and emergency workers after the incident may be established, if required. Currently, the State Department of Health conducts an ongoing study of selected health statistics for counties with and without nuclear facilities as part of its epidemiological program. This program will be enhanced in the event of a radiological emergency.

Table 1

Protective Action Guides for Exposure to Deposited Radioactivity
During the Intermediate Phase of a Nuclear Accident

Protective Action	PAG (projected dose)*	Comments
Relocate the general population.**	> or = 2 rem	Beta dose to skin may be up to 50 times higher.
Apply simple dose reduction techniques.***	< 2 rem	These protective actions should be taken to reduce doses to as low as practicable levels.

* The projected sum of effective dose equivalent from external gamma radiation and committed effective dose equivalent from inhalation of resuspended materials from exposure or intake during the first year. Projected dose refers to the dose that would be received in the absence of shielding from structures or the application of dose reduction techniques. These PAGs may not provide adequate protection from some long-lived radionuclides, therefore, 1) doses in any single year after the first will not exceed 0.5 rem, and 2) the cumulative dose over 50 years (including the first and second years) will not exceed 5 rem.

** Persons previously evacuated form areas outside the relocation zone defined by this PAG may return to occupy their residences. Cases involving relocation of persons at high risk from such action (e.g., patients under intensive care) should be evaluated individually.

*** Simple dose reduction techniques include scrubbing and/or flushing hard surfaces, soaking or plowing soil, minor removal of soil from spots where radioactive materials have concentrated, and spending more time than usual indoors or in other low exposure rate areas.

- From Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA 400-R-92-001, May 1992

Table 2

Radiation Exposure Limits
For Persons Entering the Restricted Zone

Portion of Body	Exposure per Calendar Quarter (in rems)
Whole Body *	1.25

* The Whole Body includes head and trunk, active blood-forming organs, lens of the eyes, and gonads.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

TABLE OF CONTENTS
(continued)

(NOT USED)

APPENDIX A
ROCKLAND COUNTY EMERGENCY AREA DESCRIPTIONS AND BOUNDARIES

1. DEFINITION OF BOUNDARIES

The area within 10 miles of the Indian Point Energy Center has been divided into fourteen (14) Planning Areas. The 14 Areas in Rockland County are described as follows:

Jones Point

Eastern part of Bear Mountain State Park and the Jones Point and Dunderberg areas, S of Salisbury Meadow and Ring Meadow and Et of U.S. Route 9W-202, and including the non-park areas E and S of Dunderberg Mountain, N of the main southern boundary of Bear Mountain State Park.

Bear Mountain State Park

The eastern part of Harriman State Park and Bear Mountain State Park, bounded on the W and N by the Palisades Interstate Parkway northbound and U.S. Route 6 to the Bear Mountain Bridge, and S of Salisbury Meadow and Ring Meadow, on the E by U.S. Route 9W-202 and the Park boundary, where the boundary is W of Route 9W-202.

Tompkins Cove

Tompkins Cove zip code area

Stony Point

The Town of Stony Point E of Bear Mountain and Harriman State Parks, S of Tompkins Cove and West of Grassy Point.

Grassy Point

Grassy Point E of the Penny Bridge, Minisceongo Yacht Club, Haverstraw Marina, Haverstraw Bay County Park, Bowline Park.

Unincorporated Areas of the Town of Haverstraw

The unincorporated areas of the Town of Haverstraw including the hamlets of Thiells and Mt. Ivy.

Village of West Haverstraw

In the Town of Haverstraw, the Village of West Haverstraw

Village of Haverstraw

In the Town of Haverstraw, the Village of Haverstraw

Village of Pomona

In the Towns of Haverstraw and Ramapo, the Village of Pomona and the unincorporated portions of the hamlet of Pomona.

Harriman State Park

The central and western parts of Harriman State Park, bounded on the E by the Palisades Interstate Parkway northbound and a line connecting PIP-U.S. Route 6 to the West Point Military Reservation boundary where they are very close, about 1-1/2 miles W of the Bear Mountain Bridge; on the S by the Ramapo-Haverstraw Town Line and the Rockland-Orange County Line southwestward; and on the W by the New York State Thruway (Interstate Route 87-287, not included in the EPZ) and the NW-SE running utility right-of-way crossing Smith Rock and Pound Mountain.

Northwestern Town of Clarkstown

Northwestern part of the Town of Clarkstown, excepting High Tor State Park, bounded on the E by the western boundary of Lake De Forest, and on the S by (E to W) Congers Road, Goebel Road northward, State Route 304, Squadron Boulevard, Main Street northward, West Phillips Hill Road, Old Phillips Hill road, Buena Vista Road northward, and Conklin Road; and the northeastern part of the Town of Ramapo, bounded on the W by the Palisades Interstate Parkway, and on the S by Conklin Road and a short section of State Route 45.

Central Town of Clarkstown

Central part of the Town of Clarkstown, bounded on the S by (W to E) West Clarkstown Road, a short segment o the Palisades Interstate Parkway, Church Road, Germonds Road, Parrott Road McCarthy Way, a short segment of Strawtown Road, and Hillcrest Road; on the E by the western edge of De Forest Lake; on the N by (E

to W) Congers Road, Goebel Road northward, State Route 304, Squadron Boulevard, Main Street northward, West Phillips Hill road, Old Phillips Hill Road, Buena Vista Road northward, and Conklin Road; and an eastern portion of the Town of Ramapo, E of the Palisades Interstate Parkway and S of Conklin Road and a short section of State Route 45 connecting Conklin Road to the Palisades Interstate Parkway.

Northeastern Town of Ramapo

The Town of Ramapo W of the Palisades Parkway and N of Viola and Eckerson Roads, including the Villages of Wesley Hills, New Hempstead and New Square and the hamlet of Hillcrest.

Northeastern & Eastern Town of Clarkstown

Northeastern and Eastern-central parts of the Town of Clarkstown, excepting High Tor State Park, bounded on the S by Crusher and Christian Herald Roads and Nyack Beach State Park and on the W by Lake De Forest, including the hamlets of Congers and Valley Cottage and Rockland Lake and Hook Mountain State Parks.

(NOT USED)

APPENDIX B
POPULATION DISTRIBUTION

1. ROCKLAND COUNTY POPULATION DISTRIBUTION BY PROTECTIVE ACTION AREAS

PROTECTIVE AREA AREAS	POPULATION DATA
• Tompkins Cove	1,857
• Stony Point	12,823
• Grassy Point	212
• Village of Haverstraw	10,674
• Village of West Haverstraw	10,269
• Unincorporated Areas of the Town of Haverstraw	11,305
• Northeastern & Eastern Town of Clarkstown	15,554
• Northwestern Town of Clarkstown	7,647
• Central Town of Clarkstown	23,502
• Village of Pomona	4,405
• Northeastern Town of Ramapo	24,391
• Jones Point	83
• Bear Mountain State Park	0
• Harriman State Park	8
TOTAL	122,730

* Source: Area population figures based on U.S. Census estimates of municipal population change for 2000-2006. Population change rates have been applied to 2000 census block population figures and recalculated census block totals summed by Protective Area.

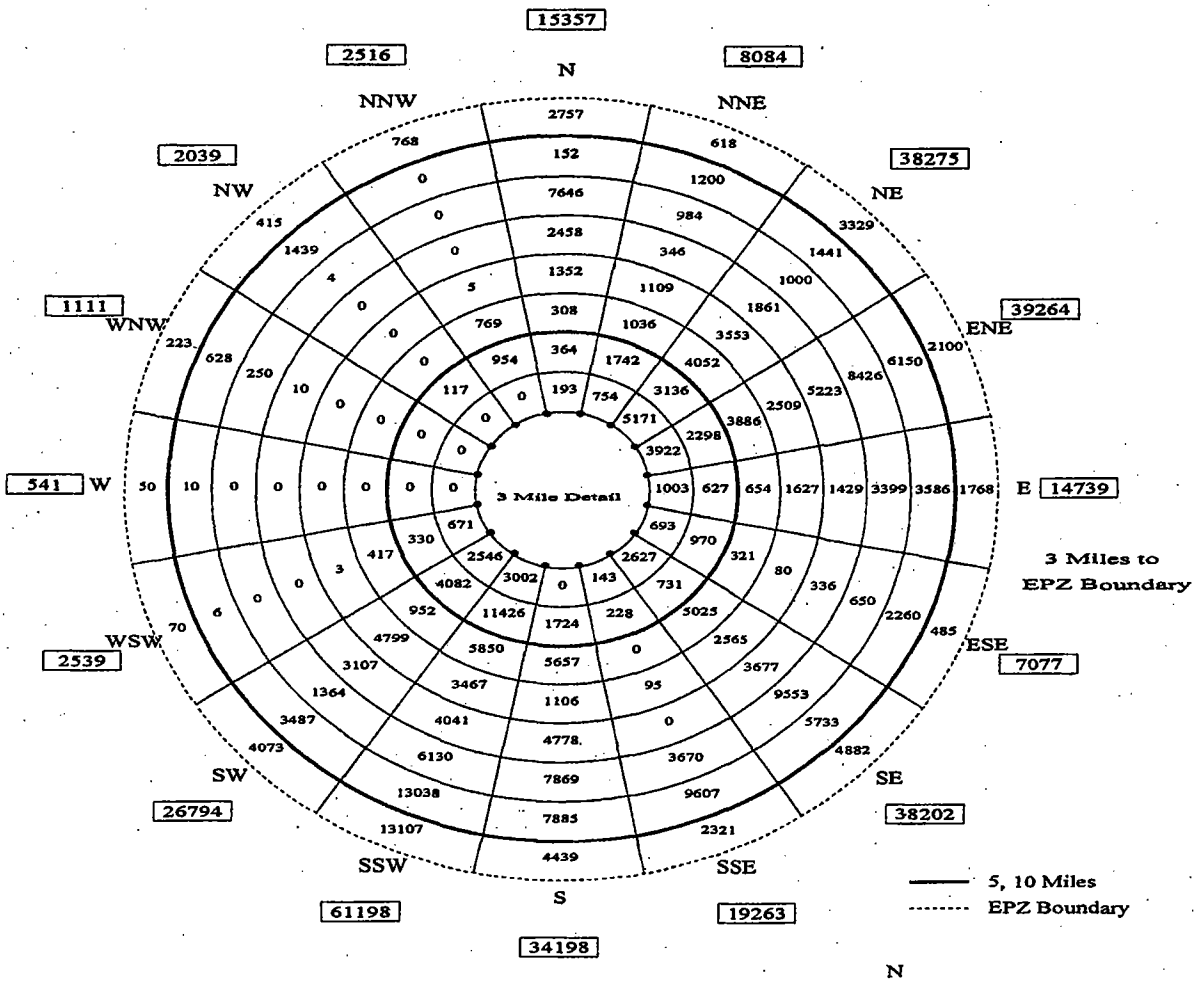
2. POPULATION DISTRIBUTION BY SEGMENT FOR THE 10-MILE EPZ

Population estimates are provided for permanent residents and transient population by sector in Tables B-1 and B-2, respectively.

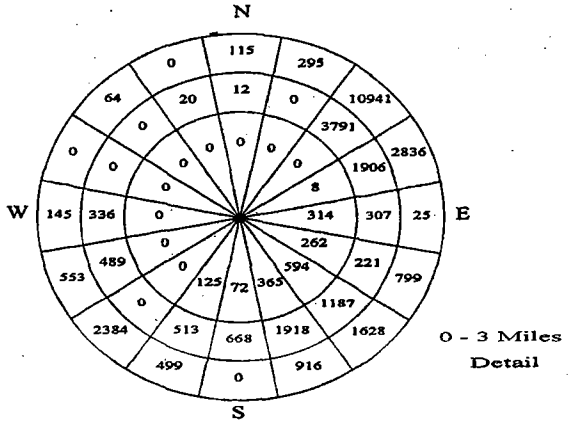
Source: "Indian Point Energy Center, Development of Evacuation Time Estimates Addendum for New Protective Action Areas," prepared by KLD Associates, Inc., April 2008.

TABLE B-1

Permanent Residents by Sector

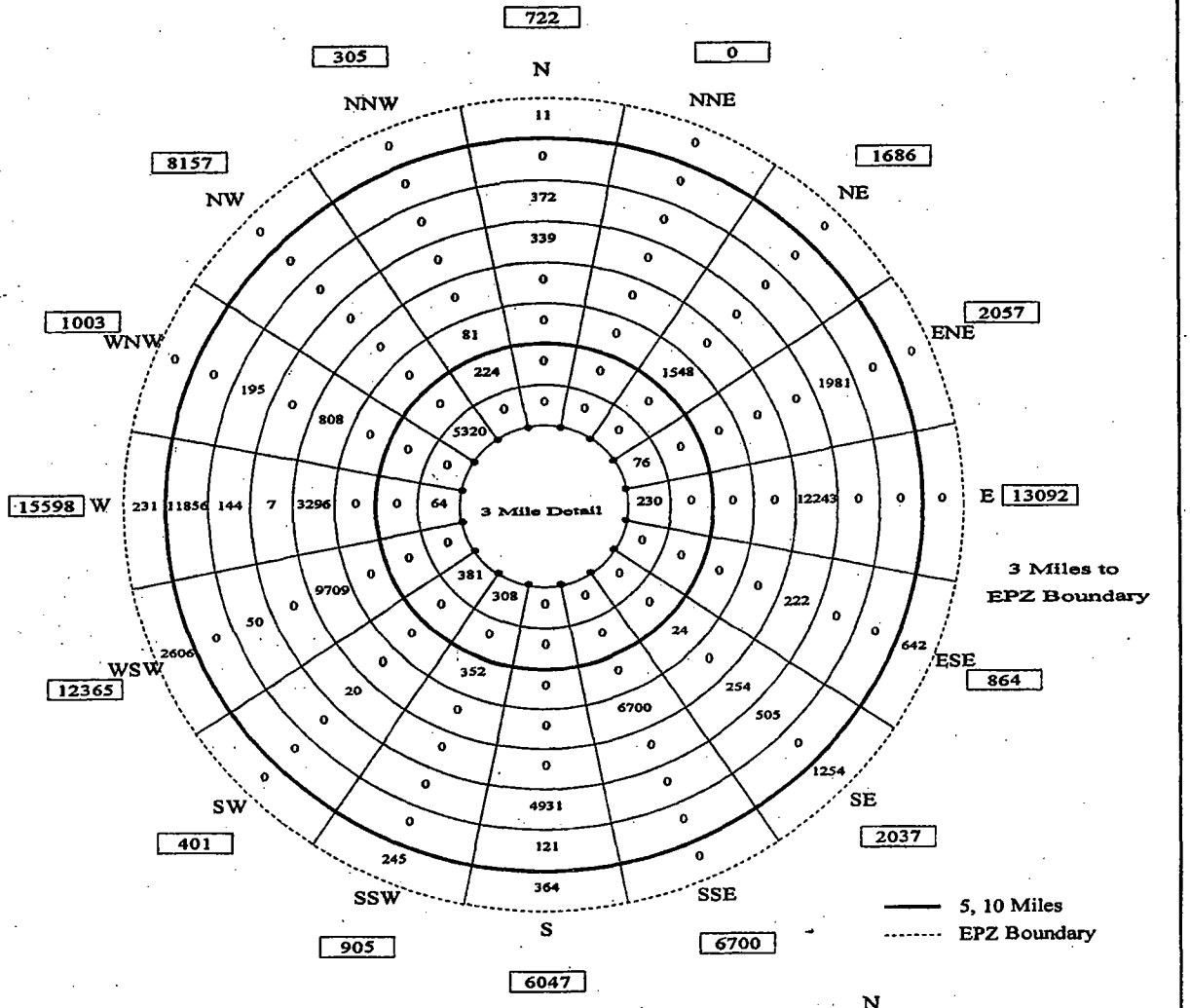


Resident Population			
Miles	Ring Subtotal	Total Miles	Cumulative Total
0-1	1740	0-1	1740
1-2	11368	0-2	13108
2-3	21200	0-3	34308
3-4	20725	0-4	55033
4-5	28729	0-5	83762
5-6	28927	0-6	112689
6-7	22270	0-7	134959
7-8	27266	0-8	162225
8-9	50945	0-9	213170
9-10	56622	0-10	269792
10-EPZ	41405	0-EPZ	311197

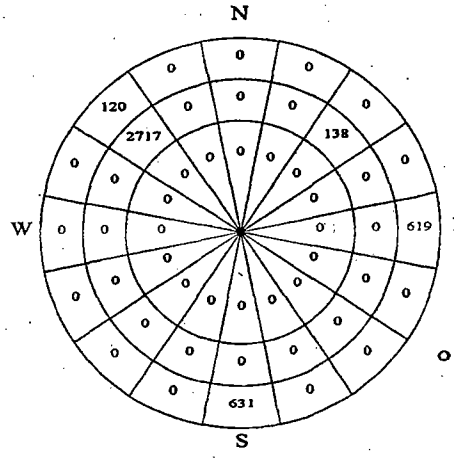


Permanent Resident Population by Sector

TABLE B-2
Indian Point EPZ
Transient Population by Sector



Transient Population			
Miles	Ring Subtotal	Total Miles	Cumulative Total
0-1	0	0-1	0
1-2	2855	0-2	2855
2-3	1370	0-3	4225
3-4	6379	0-4	10604
4-5	224	0-5	10828
5-6	2005	0-6	12833
6-7	20513	0-7	33346
7-8	13085	0-8	46431
8-9	8178	0-9	54609
9-10	11977	0-10	66586
10-EPZ	5353	0-EPZ	71939



APPENDIX C
EVACUATION TIME ESTIMATES

The following tables (Tables C-1 through C-10) are excerpted from the report entitled: "Indian Point Energy Center, Development of Evacuation Time Estimates Addendum for New Protective Action Areas," prepared by KLD Associates, Inc., April 2008.

Tables C-11 and C-12 are excerpted from the previous KLD Associates time estimates report dated May 2003.

- Table C-1 is a summary of population and vehicles by *Area*
- Table C-2 defines evacuation scenarios
- Table C-3 is a summary of the percent of population groups evacuating for various scenarios
- Tables C-4, C-5, C-6 & C-7 are the time estimates to clear the indicated *region (R1 through R-35)* of 50%, 90%, 95% and 100% of the evacuating population, respectively
- Table C-8 are the time estimates to clear the indicated *Area* of 100% of the evacuating population for *region R1, the entire 2-mile ring*
- Table C-9 are the time estimates to clear the indicated *Area* of 100 % of the evacuating population for *region R2, the entire 5-mile ring*
- Table C-10 are the time estimates to clear the indicated *Area* of 100 % of the evacuating population for *region R3, the entire 10-mile EPZ*
- Table C-11 is the school evacuation time estimates
- Table C-12 is the transit-dependent time estimates

In the event that evacuation is recommended, it is most likely to involve only a limited portion of the EPZ, e.g. 0-2, 0-5 mile radius or a portion of a given radius.

A complete copy of the evacuation time estimate report is located in the EOC.

TABLE C-1

Summary of Population and Vehicles by Area								
	Residents		Students		Commuters/Employees		Total	
AREA	Population	Vehicles	Population	Vehicles	Population	Vehicles	Population	Vehicles
Central Town of Clarkstown	23,194	8,627	609	300	4,815	4,500	28,618	13,427
Northeastern Town of Ramapo	25,373	9,439	0	0	2,461	2,300	27,834	11,739
Northeastern & Eastern Town of Clarkstown	15,590	5,799	5,052	1,153	3,689	3,448	24,331	10,400
Northwestern Town of Clarkstown	7,672	2,854	0	0	1,338	1,250	9,010	4,104
Village of Haverstraw	10,855	4,037	0	0	2,130	1,991	12,985	6,028
Village of West Haverstraw	10,253	3,814	0	0	0	0	10,253	3,814
Unincorporated Areas of the Town of Haverstraw	11,443	4,257	372	105	1,070	1,000	12,885	5,362
Village of Pomona	4,515	1,679	0	0	745	696	5,260	2,375
Grassy Point	215	80	0	0	0	0	215	80
Stony Point	13,036	4,849	689	224	1,050	981	14,775	6,054
Tompkins Point	1,888	702	0	0	0	0	1,888	702
Jones Point	84	31	0	0	0	0	84	31
Bear Mountain State park	0	0	8,157	3,502	54	50	8,211	3,552
Harriman State Park	9	4	16,879	4,690	0	0	16,888	4,694

TABLE C-2

Evacuation Scenario Definitions					
Scenario No.	**Season**	**Day of Week**	**Time of Day**	**Weather**	**Special**
1	Summer	Midweek	Midday	Good	None
2	Summer	Midweek	Midday	Rain	None
3	Summer	Weekend	Midday	Good	None
4	Summer	Weekend	Midday	Rain	None
5	Summer	Midweek, Weekend	Evening	Good	None
6	Winter	Midweek	Midday	Good	None
7	Winter	Midweek	Midday	Rain	None
8	Winter	Midweek	Midday	Snow	None
9	Winter	Weekend	Midday	Good	None
10	Winter	Weekend	Midday	Rain	None
11	Winter	Weekend	Midday	Snow	None
12	Winter	Midweek, Weekend	Evening	Good	None
13	Autumn	Weekend	Midday	Good	West Point Football
14	Spring	Midweek	Midday	Good	West Point Graduation

TABLE C-3

Percent of Population Groups Evacuating for Various Scenarios									
Scenarios	Residents With Commuters in Household	Residents With No Commuters in Household	Employees	Transients	Shadow	Special Events	School Buses	Transit Buses	External Through Traffic
1	60%	40%	96%	50%	40%	0%	10%	100%	100%
2	60%	40%	96%	50%	40%	0%	10%	100%	100%
3	10%	90%	47%	100%	35%	0%	0%	100%	100%
4	10%	90%	47%	100%	35%	0%	0%	100%	100%
5	10%	90%	10%	40%	31%	0%	0%	100%	60%
6	60%	40%	100%	32%	40%	0%	100%	100%	100%
7	60%	40%	100%	23%	40%	0%	100%	100%	100%
8	60%	40%	100%	12%	40%	0%	100%	100%	100%
9	10%	90%	47%	40%	35%	0%	10%	100%	100%
10	10%	90%	47%	28%	35%	0%	10%	100%	100%
11	10%	90%	47%	14%	35%	0%	10%	100%	100%
12	10%	90%	10%	20%	31%	0%	0%	100%	60%
13	10%	90%	47%	40%	35%	100%	10%	100%	100%
14	60%	40%	100%	32%	40%	25%	100%	100%	100%

Residents With Commuters in Household .....Households of EPZ residents who await the return of commuters prior to beginning the evacuation trip.
Residents With No Commuters in Household ...Households of EPZ residents who do not have or will not await the return of commuters prior to beginning the evacuation trip.
Employees.....EPZ employees who live outside of the EPZ.
Transients.....People who are in the EPZ at the time of an accident for recreational or other (non-employment) purposes.
Shadow.....Residents and employees in the shadow region (outside of the EPZ) who will spontaneously decide to relocate during the evacuation. The basis for the values shown is a 30% relocation of shadow residents along with a proportional percentage of shadow employees. The percentage of shadow employees is computed using the scenario-specific ratio of EPZ employees to residents.
Special Events .....Additional vehicles in the West Point area associated with a football weekend or a commencement ceremony.
School and Transit Buses.....Vehicle-equivalents present on the road during evacuation servicing schools and transit-dependent people.
External Through Traffic Traffic that travels through the area defined by the EPZ plus the Shadow Region prior to, and during the 90 minutes following the Advisory to Evacuate. This traffic is then diverted by access control or otherwise discouraged

TABLE C-4

Table 6-1. Time To Clear The Indicated Area of 50 Percent of the Evacuating Population (Page 1 of 2)

	Summer		Summer		Summer		Winter			Winter			Winter		Autumn	Spring
	Midweek		Weekend		Midwest Weekend		Midweek			Weekend			Midwest Weekend		Autumn Weekend (USA Football Game)	Spring Midweek (MLK Graduation)
Scenario	(1)	(2)	(3)	(4)	(5)	Scenario	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Scenario	(13)	(14)
	Midday		Midday		Evening		Midday			Midday			Evening		Midday	Midday
Region	Good Weather	Rain	Good Weather	Rain	Good Weather	Region	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Region	Good Weather	Good Weather
Entire 2-Mile Region, 5-Mile Region, and EPZ																
R1	1:45	1:55	1:35	1:45	1:15	R1	1:55	2:05	2:25	1:30	1:35	2:00	1:20	R1	1:30	1:55
R2	2:05	2:15	1:55	2:05	1:40	R2	2:05	2:15	2:40	1:45	1:55	2:15	1:40	R2	2:00	2:10
R3	2:30	2:45	2:15	2:30	1:55	R3	2:30	2:45	3:15	2:05	2:20	2:50	1:55	R3	2:20	2:30
2-Mile Ring and Sector to 5 Miles																
R4	1:55	2:05	1:45	1:55	1:30	R4	1:55	2:05	2:35	1:35	1:45	2:10	1:25	R4	1:45	1:55
R5	2:00	2:10	1:55	2:05	1:35	R5	2:00	2:10	2:45	1:40	1:50	2:20	1:30	R5	1:40	2:00
R6	2:00	2:10	1:55	2:05	1:35	R6	2:00	2:10	2:45	1:40	1:50	2:20	1:30	R6	1:40	2:00
R7	2:05	2:15	1:55	2:05	1:35	R7	2:05	2:15	2:45	1:45	1:55	2:20	1:35	R7	1:45	2:05
R8	2:05	2:15	1:55	2:05	1:35	R8	2:05	2:15	2:45	1:45	1:55	2:20	1:35	R8	1:45	2:05
R9	2:05	2:15	1:55	2:05	1:35	R9	2:05	2:15	2:45	1:45	1:55	2:20	1:35	R9	1:45	2:05
R10	2:05	2:15	1:55	2:05	1:35	R10	2:05	2:15	2:45	1:45	1:55	2:20	1:35	R10	1:45	2:05
R11	2:00	2:10	1:50	2:00	1:35	R11	2:00	2:10	2:40	1:40	1:50	2:15	1:30	R11	1:40	2:00
R12	2:05	2:15	1:55	2:05	1:40	R12	2:05	2:15	2:50	1:45	1:55	2:30	1:40	R12	1:55	2:10
R13	2:05	2:15	1:55	2:05	1:40	R13	2:05	2:15	2:50	1:45	1:55	2:30	1:40	R13	1:55	2:10
R14	2:00	2:10	1:55	2:05	1:40	R14	2:00	2:15	2:40	1:45	1:55	2:20	1:40	R14	1:50	2:00
R15	1:55	2:05	1:50	2:00	1:35	R15	1:55	2:05	2:30	1:40	1:45	2:10	1:35	R15	1:45	1:55
R16	1:45	1:55	1:35	1:45	1:20	R16	1:55	2:05	2:15	1:30	1:35	1:55	1:20	R16	1:30	1:55
R17	1:45	1:55	1:35	1:45	1:20	R17	1:55	2:05	2:20	1:30	1:35	1:55	1:20	R17	1:45	1:55
R18	1:55	2:00	1:45	1:55	1:25	R18	1:55	2:05	2:35	1:35	1:40	2:05	1:25	R18	1:55	1:55
R19	1:55	2:00	1:45	1:55	1:25	R19	1:55	2:05	2:35	1:35	1:40	2:05	1:25	R19	1:55	1:55

TABLE C-4
(continued)

Table 6-1. Time To Clear The Indicated Area of 50 Percent of the Evacuating Population (Page 2 of 2)

Region	Summer Midweek Good Weather	Summer Midweek Rain	Summer Weekend Good Weather	Summer Weekend Rain	Summer Midweek/Weekend Special Event	Region	Winter Midweek Good Weather	Winter Midweek Rain	Winter Midweek Snow	Winter Weekend Good Weather	Winter Weekend Rain	Winter Weekend Snow	Winter Midweek/Weekend Special Event	Region	Autumn Weekend (GEM) Good Weather	Spring Midweek (GEM) Good Weather
Scenario	(5) Midday	(2)	(5) Midday	(4)	(6) Evening	Scenario	(6) Midday	(7)	(8)	(9) Midday	(10)	(11)	(12) Evening	Scenario	(13) Midday	(14) Midday
5 Mile Ring and Sector to EPZ Boundary																
R20	2:25	2:40	2:10	2:25	1:50	R20	2:25	2:45	3:10	2:00	2:15	2:45	1:50	R20	2:15	2:25
R21	2:30	2:45	2:15	2:30	1:55	R21	2:30	2:45	3:15	2:05	2:20	2:50	1:55	R21	2:20	2:30
R22	2:30	2:45	2:15	2:30	1:55	R22	2:30	2:45	3:15	2:05	2:20	2:55	1:55	R22	2:20	2:30
R23	2:25	2:45	2:15	2:30	1:55	R23	2:30	2:45	3:10	2:05	2:20	2:50	1:55	R23	2:20	2:30
R24	2:20	2:35	2:10	2:25	1:45	R24	2:20	2:35	3:00	2:00	2:10	2:40	1:45	R24	2:10	2:20
R25	2:25	2:45	2:15	2:30	1:55	R25	2:30	2:45	3:10	2:05	2:15	2:45	1:50	R25	2:15	2:30
R26	2:25	2:40	2:15	2:25	1:55	R26	2:25	2:40	3:05	2:05	2:15	2:45	1:50	R26	2:15	2:25
R27	2:25	2:35	2:10	2:20	1:50	R27	2:25	2:40	3:05	2:00	2:10	2:40	1:45	R27	2:10	2:25
R28	2:10	2:20	1:55	2:05	1:40	R28	2:10	2:20	2:45	1:45	1:55	2:25	1:40	R28	2:00	2:10
R29	2:10	2:20	1:55	2:05	1:40	R29	2:10	2:25	2:50	1:45	1:55	2:25	1:40	R29	2:00	2:10
R30	2:10	2:20	1:55	2:05	1:40	R30	2:10	2:25	2:45	1:45	1:55	2:25	1:40	R30	2:00	2:10
R31	2:05	2:15	1:55	2:05	1:40	R31	2:05	2:15	2:45	1:45	1:55	2:20	1:40	R31	2:00	2:10
R32	2:05	2:20	1:55	2:05	1:40	R32	2:10	2:20	2:50	1:45	1:55	2:25	1:40	R32	2:05	2:10
R33	2:10	2:20	1:55	2:05	1:40	R33	2:10	2:25	2:50	1:45	1:55	2:30	1:40	R33	2:05	2:10
R34	2:10	2:20	1:55	2:05	1:40	R34	2:10	2:25	2:50	1:45	1:55	2:30	1:40	R34	2:05	2:10
R35	2:15	2:30	2:00	2:15	1:45	R35	2:20	2:35	3:00	1:50	2:05	2:35	1:45	R35	2:10	2:20

TABLE C-5

Table 6-2. Time To Clear The Indicated Area of 90 Percent of the Evacuating Population (Page 1 of 2)

	Summer		Summer		Summer		Winter			Winter			Winter		Autumn	Spring
	Midweek		Weekend		Midweek Weekend		Midweek			Weekend			Midweek Weekend		Weekend USMA Football	Midweek USMA Graduation
Scenario:	(1)	(2)	(3)	(4)	(5)	Scenario:	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Scenario:	(13)	(14)
	Midday		Midday		Evening		Midday			Friday			Evening		Midday	Midday
Region	Good Weather	Rain	Good Weather	Rain	Good Weather	Region	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Region	Good Weather	Good Weather
Entire 2-Mile Region, 5-Mile Region, and EPZ																
R1	3:50	4:10	3:10	3:25	2:40	R1	3:55	4:15	4:45	3:10	3:20	3:55	2:40	R1	3:10	3:55
R2	4:30	4:55	4:00	4:20	3:25	R2	4:30	5:00	5:35	3:50	4:10	4:40	3:25	R2	4:20	4:15
R3	5:20	5:50	4:50	5:20	4:10	R3	5:20	5:55	6:30	4:40	5:00	5:40	4:10	R3	4:50	5:05
2-Mile Ring and Sector to 5 Miles																
R4	4:20	4:50	4:00	4:20	3:20	R4	4:30	4:55	5:40	3:50	4:10	4:55	3:20	R4	4:05	4:30
R5	4:30	4:55	4:00	4:20	3:25	R5	4:30	5:00	5:45	3:50	4:10	5:00	3:25	R5	3:50	4:30
R6	4:30	4:55	4:00	4:20	3:25	R6	4:30	5:00	5:45	3:50	4:10	5:00	3:25	R6	3:50	4:30
R7	4:25	4:55	4:00	4:20	3:25	R7	4:30	4:55	5:45	3:50	4:10	5:00	3:25	R7	3:50	4:30
R8	4:25	4:55	4:00	4:20	3:25	R8	4:30	4:55	5:45	3:50	4:10	5:00	3:25	R8	3:50	4:30
R9	4:25	4:55	4:00	4:20	3:25	R9	4:30	4:55	5:45	3:50	4:10	5:00	3:25	R9	3:50	4:30
R10	4:25	4:55	4:00	4:20	3:25	R10	4:30	4:55	5:45	3:50	4:10	5:00	3:25	R10	3:50	4:30
R11	4:20	4:45	4:00	4:20	3:25	R11	4:25	4:50	5:35	3:45	4:10	4:50	3:20	R11	3:45	4:25
R12	4:20	4:40	3:55	4:15	3:25	R12	4:20	4:45	5:25	3:45	4:05	4:50	3:25	R12	3:45	4:20
R13	4:20	4:40	3:55	4:15	3:25	R13	4:20	4:45	5:25	3:45	4:05	4:50	3:25	R13	3:45	4:20
R14	4:15	4:40	3:55	4:15	3:25	R14	4:20	4:40	5:25	3:40	4:00	4:45	3:20	R14	3:40	4:20
R15	4:10	4:30	3:50	4:10	3:10	R15	4:10	4:40	5:20	3:30	3:50	4:40	3:10	R15	3:30	4:10
R16	3:50	4:10	3:15	3:30	2:50	R16	3:55	4:15	4:45	3:10	3:20	4:00	2:50	R16	3:10	3:55
R17	4:00	4:20	3:20	3:40	2:50	R17	4:10	4:30	5:10	3:10	3:30	4:10	2:50	R17	5:00	4:00
R18	4:30	4:55	4:00	4:20	3:20	R18	4:30	5:00	5:50	3:40	4:00	4:50	3:20	R18	4:40	4:30
R19	4:30	4:55	4:00	4:20	3:20	R19	4:30	5:00	5:50	3:40	4:00	4:50	3:20	R19	4:40	4:30

TABLE C-5
(continued)

Table 6-2. Time To Clear The Indicated Area of 90 Percent of the Evacuating Population (Page 2 of 2)

Region	Summer Midweek Midday Good Weather	Summer Midweek Midday Rain	Summer Weekend Midday Good Weather	Summer Weekend Midday Rain	Summer Midnight Weekend Evening Snow	Region	Winter Midweek Midday Good Weather	Winter Midweek Midday Rain	Winter Midweek Midday Snow	Winter Weekend Midday Good Weather	Winter Weekend Midday Rain	Winter Weekend Midday Snow	Winter Midnight Weekend Evening Good Weather	Region	Autumn Weekend (USFL Football) Midday Good Weather	Spring Midweek (USFA Exhibition) Midday Good Weather
Scenario	(1)	(2)	(3)	(4)	(5)	Scenario	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Scenario	(13)	(14)
5 Mile Ring and Sector to EPZ Boundary																
R20	5:10	5:40	4:25	4:50	3:50	R20	5:10	5:45	6:35	4:15	4:40	5:30	3:50	R20	4:50	5:10
R21	5:20	5:50	4:50	5:20	4:10	R21	5:20	5:55	7:00	4:40	5:00	6:00	4:10	R21	5:10	5:20
R22	5:20	5:50	4:50	5:20	4:10	R22	5:20	5:55	7:00	4:40	5:00	6:10	4:10	R22	5:10	5:20
R23	5:15	5:50	4:50	5:20	4:10	R23	5:20	5:50	6:50	4:40	5:00	6:00	4:10	R23	5:10	5:20
R24	4:55	5:30	4:30	5:00	3:50	R24	5:00	5:30	6:20	4:10	4:40	5:20	3:45	R24	4:50	5:00
R25	5:00	5:30	4:40	5:05	3:55	R25	5:00	5:30	6:15	4:20	4:40	5:25	3:50	R25	4:40	5:00
R26	4:55	5:25	4:35	5:00	3:50	R26	4:55	5:25	6:10	4:15	4:40	5:20	3:45	R26	4:40	4:50
R27	4:50	5:20	4:25	4:50	3:50	R27	4:50	5:20	6:05	4:10	4:35	5:15	3:45	R27	4:30	4:45
R28	4:30	5:00	4:05	4:30	3:35	R28	4:30	5:00	5:40	3:50	4:10	4:55	3:30	R28	4:20	4:25
R29	4:30	4:55	4:00	4:20	3:25	R29	4:30	5:00	5:40	3:50	4:10	4:50	3:25	R29	4:20	4:20
R30	4:30	4:55	4:00	4:20	3:30	R30	4:30	5:00	5:45	3:50	4:10	4:50	3:25	R30	4:20	4:25
R31	4:30	4:55	4:00	4:20	3:25	R31	4:30	5:00	5:45	3:50	4:10	4:50	3:25	R31	4:20	4:20
R32	4:30	5:00	4:00	4:20	3:25	R32	4:35	5:00	5:50	3:50	4:10	4:50	3:25	R32	4:30	4:25
R33	4:35	5:00	4:00	4:20	3:25	R33	4:40	5:10	5:50	3:50	4:10	4:55	3:25	R33	4:30	4:30
R34	4:35	5:00	4:00	4:20	3:25	R34	4:40	5:10	5:50	3:50	4:10	4:55	3:25	R34	4:30	4:30
R35	4:50	5:20	4:10	4:30	3:30	R35	4:50	5:20	6:10	3:55	4:20	5:05	3:30	R35	4:40	4:40

Table 6-3. Time To Clear The Indicated Area of 95 Percent of the Evacuating Population (Page 1 of 2)

	Summer Midweek		Summer Weekends		Summer Midweek Weekends		Winter Midweek			Winter Weekend			Winter Midweek Weekend		Autumn Weekend (NFL Football)	Spring Midweek (NFL Graduation)
Scenario	(1)	(2)	(3)	(4)	(5)	Scenario	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Scenario	(13)	(14)
	Midday		Midday		Evening		Midday			Midday			Evening		Midday	Midday
Region	Good Weather	Rain	Good Weather	Rain	Good Weather	Region	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Region	Good Weather	Good Weather
Entire 2-Mile Region, 5-Mile Region, and EPZ																
R1	4:15	4:35	3:30	3:45	3:00	R1	4:20	4:40	5:10	3:30	3:45	4:20	3:00	R1	3:30	4:20
R2	5:00	5:30	4:30	4:50	3:50	R2	5:00	5:30	6:10	4:15	4:40	5:10	3:50	R2	5:10	4:40
R3	6:00	6:40	5:30	6:00	4:50	R3	6:10	6:45	7:30	5:20	5:50	6:40	4:40	R3	5:30	5:50
2-Mile Ring and Sector to 5 Miles																
R4	4:50	5:20	4:30	4:50	3:50	R4	4:55	5:20	6:10	4:10	4:40	5:20	3:50	R4	4:30	4:55
R5	4:55	5:20	4:30	4:50	3:50	R5	5:00	5:25	6:10	4:15	4:40	5:20	3:50	R5	4:15	5:00
R6	4:55	5:20	4:30	4:50	3:50	R6	5:00	5:25	6:10	4:15	4:40	5:20	3:50	R6	4:15	5:00
R7	4:55	5:20	4:30	4:50	3:50	R7	5:00	5:25	6:10	4:15	4:40	5:20	3:50	R7	4:15	5:00
R8	4:55	5:20	4:30	4:50	3:50	R8	5:00	5:25	6:10	4:15	4:40	5:20	3:50	R8	4:15	5:00
R9	4:55	5:20	4:30	4:50	3:50	R9	5:00	5:25	6:10	4:15	4:40	5:20	3:50	R9	4:15	5:00
R10	4:55	5:20	4:30	4:50	3:50	R10	5:00	5:25	6:10	4:15	4:40	5:20	3:50	R10	4:15	5:00
R11	4:50	5:20	4:30	4:50	3:50	R11	4:50	5:20	6:05	4:10	4:35	5:20	3:40	R11	4:10	4:50
R12	4:45	5:10	4:20	4:40	3:45	R12	4:50	5:10	6:00	4:10	4:30	5:10	3:40	R12	4:10	4:50
R13	4:45	5:10	4:20	4:40	3:45	R13	4:50	5:10	6:00	4:10	4:30	5:10	3:40	R13	4:10	4:50
R14	4:40	5:10	4:20	4:40	3:45	R14	4:40	5:10	5:55	4:00	4:30	5:10	3:40	R14	4:00	4:40
R15	4:40	5:10	4:20	4:40	3:40	R15	4:50	5:10	6:00	4:00	4:30	5:10	3:40	R15	4:00	4:40
R16	4:15	4:45	3:40	4:00	3:10	R16	4:20	4:40	5:10	3:30	3:50	4:30	3:10	R16	3:30	4:20
R17	4:30	5:00	3:40	4:00	3:10	R17	4:40	5:10	5:50	3:35	3:50	4:30	3:10	R17	6:00	4:20
R18	5:00	5:30	4:25	4:50	3:40	R18	5:00	5:30	6:20	4:10	4:30	5:15	3:40	R18	5:40	5:00
R19	5:00	5:30	4:25	4:50	3:40	R19	5:00	5:30	6:20	4:10	4:30	5:15	3:40	R19	5:40	5:00

TABLE C-6
(continued)

Table 6-3. Time To Clear The Indicated Area of 95 Percent of the Evacuating Population (Page 2 of 2)

Region	Summer Midweek		Summer Weekend		Summer Midweek/ Weekend	Region	Winter Midweek			Winter Weekend			Winter Midweek/ Weekend	Region	Autumn Weekend (Same as Winter Midweek)	Spring Midweek (Same as Winter Midweek)
Scenario	(1)	(2)	(3)	(4)	(5)	Scenario	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Scenario	(6)	(6)
	Midday		Midday		Evening		Midday			Midday			Evening		Midday	Midday
	Good Weather	Rain	Good Weather	Rain	Good Weather		Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather		Good Weather	Good Weather
5 Mile Ring and Sector to EPZ Boundary																
R20	5:40	6:20	4:50	5:20	4:20	R20	5:40	6:20	7:20	4:40	5:10	6:10	4:10	R20	5:30	5:35
R21	6:00	6:40	5:30	6:00	4:50	R21	6:10	6:45	7:50	5:20	5:50	7:00	4:40	R21	5:50	6:10
R22	6:00	6:40	5:30	6:00	4:50	R22	6:10	6:45	7:50	5:20	5:50	7:10	4:40	R22	5:50	6:20
R23	6:00	6:40	5:30	6:00	4:50	R23	6:10	6:40	7:50	5:20	5:50	7:00	4:40	R23	5:50	6:10
R24	5:30	6:10	5:10	5:40	4:20	R24	5:40	6:20	7:10	4:50	5:20	6:20	4:20	R24	5:30	5:40
R25	5:30	6:10	5:10	5:40	4:20	R25	5:30	6:10	7:00	4:50	5:15	6:00	4:10	R25	5:20	5:30
R26	5:30	6:05	5:10	5:40	4:20	R26	5:30	6:10	6:50	4:50	5:10	6:00	4:10	R26	5:20	5:30
R27	5:20	6:00	5:00	5:30	4:10	R27	5:20	6:00	6:40	4:40	5:10	5:50	4:10	R27	5:10	5:20
R28	5:00	5:30	4:30	5:00	4:00	R28	5:00	5:30	6:20	4:20	4:40	5:30	3:55	R28	5:10	5:00
R29	5:00	5:30	4:30	4:50	3:50	R29	5:00	5:30	6:20	4:15	4:40	5:20	3:50	R29	5:10	5:00
R30	5:00	5:30	4:30	4:50	3:50	R30	5:00	5:30	6:20	4:15	4:40	5:20	3:50	R30	5:10	5:00
R31	5:00	5:30	4:30	4:50	3:50	R31	5:00	5:30	6:20	4:15	4:40	5:20	3:50	R31	5:10	5:00
R32	5:00	5:30	4:30	4:50	3:50	R32	5:00	5:35	6:25	4:15	4:40	5:20	3:50	R32	5:20	5:00
R33	5:00	5:40	4:30	4:50	3:50	R33	5:00	5:40	6:30	4:15	4:40	5:20	3:50	R33	5:30	5:00
R34	5:00	5:40	4:30	4:50	3:50	R34	5:00	5:40	6:30	4:15	4:40	5:20	3:50	R34	5:30	5:00
R35	5:20	5:55	4:30	5:00	3:50	R35	5:20	6:00	6:50	4:20	4:50	5:40	3:50	R35	5:30	5:20

Table 6-4. Time To Clear The Indicated Area of 100 Percent of the Evacuating Population (Page 1 of 2)

	Summer		Summer		Summer		Winter			Winter			Winter		Autumn	Spring
	Midweek		Weekend		Midweek Weekend		Midweek			Weekend			Midweek Weekend		Weekend (USA Football)	Midweek (USA Football)
Scenario	(1)	(2)	(3)	(4)	(5)	Scenario	(6)		(8)	(9)	(10)	(11)	(12)	Scenario	(13)	(14)
	Midday		Midday	Evening			Midday			Midday			Evening		Midday	Midday
Region	Good Weather	Rain	Good Weather	Rain	Good Weather	Region	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Region	Good Weather	Good Weather
Entire 2-Mile Region, 5-Mile Region, and EPZ																
R1	5:00	5:20	4:30	4:50	3:50	R1	5:10	5:30	5:50	4:20	4:50	5:20	3:50	R1	4:20	5:10
R2	5:50	6:20	6:30	7:00	4:30	R2	5:50	6:30	7:30	5:00	5:20	6:20	4:30	R2	7:50	5:50
R3	7:40	8:30	8:30	9:10	6:30	R3	7:40	8:30	9:50	7:00	7:30	9:00	6:30	R3	8:40	7:40
2-Mile Ring and Sector to 5 Miles																
R4	5:40	6:00	6:30	7:00	4:30	R4	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R4	5:30	5:40
R5	5:40	6:00	6:30	7:00	4:30	R5	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R5	5:00	5:40
R6	5:40	6:00	6:30	7:00	4:30	R6	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R6	5:00	5:40
R7	5:30	6:00	6:30	7:00	4:30	R7	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R7	5:00	5:40
R8	5:30	6:00	6:30	7:00	4:30	R8	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R8	5:00	5:40
R9	5:30	6:00	6:30	7:00	4:30	R9	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R9	5:00	5:40
R10	5:30	6:00	6:30	7:00	4:30	R10	5:40	6:00	7:00	5:00	5:20	6:20	4:30	R10	5:00	5:40
R11	5:30	6:00	6:30	7:00	4:30	R11	5:40	6:00	7:00	4:50	5:20	6:20	4:30	R11	4:50	5:40
R12	5:40	6:00	6:30	7:00	4:30	R12	5:40	6:00	7:00	4:50	5:20	6:20	4:30	R12	4:50	5:40
R13	5:40	6:00	6:30	7:00	4:30	R13	5:40	6:00	7:00	4:50	5:20	6:20	4:30	R13	4:50	5:40
R14	5:40	6:00	6:30	7:00	4:30	R14	5:40	6:00	7:00	4:50	5:20	6:20	4:30	R14	4:50	5:40
R15	5:40	6:00	6:30	7:00	4:30	R15	5:40	6:00	7:00	4:50	5:20	6:20	4:30	R15	4:50	5:40
R16	5:20	5:30	4:50	5:20	4:00	R16	5:20	5:40	6:10	4:30	4:50	5:40	4:00	R16	4:30	5:20
R17	5:30	6:20	4:50	5:20	4:10	R17	5:50	6:30	7:40	4:30	4:50	5:40	4:00	R17	7:50	5:20
R18	5:50	6:20	6:30	7:00	4:30	R18	5:50	6:30	7:40	5:00	5:20	6:20	4:30	R18	7:50	5:50
R19	5:50	6:20	6:30	7:00	4:30	R19	5:50	6:30	7:40	5:00	5:20	6:20	4:30	R19	7:50	5:50

TABLE C-7
(continued)

Table 6-4. Time To Clear The Indicated Area of 100 Percent of the Evacuating Population (Page 2 of 2)

	Summer		Summer		Summer		Winter		Winter		Winter		Autumn	Spring
	Midweek		Weekend		Midweek Weekend		Midweek		Weekend		Midweek Weekend		Weekend (UMA Football)	Midweek (UMA Graduation)
Scenario	(1)	(2)	(3)	(4)	(5)	Scenario	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Scenario	(13)	(14)
	Midday		Midday		Evening		Midday		Midday		Evening				Midday	Midday
Region	Good Weather	Rain	Good Weather	Rain	Good Weather	Region	Good Weather	Rain	Good Weather	Rain	Snow	Good Weather	Region	Good Weather	Good Weather
5 Mile Ring and Sector to EPZ Boundary																
R20	7:10	7:50	7:00	7:40	6:00	R20	7:10	7:50	9:10	6:20	7:00	8:30	6:00	R20	8:40	7:10
R21	7:40	8:30	7:00	7:40	6:30	R21	7:40	8:30	9:50	7:00	7:30	9:00	6:30	R21	8:10	7:40
R22	7:40	8:30	7:00	7:40	6:30	R22	7:40	8:30	9:50	7:00	7:30	9:00	6:30	R22	8:10	7:40
R23	7:40	8:30	7:00	7:40	6:30	R23	7:40	8:30	9:50	7:00	7:30	9:00	6:30	R23	8:10	7:40
R24	7:10	8:00	7:00	7:40	5:50	R24	7:20	7:50	9:00	6:30	7:00	8:10	5:50	R24	8:10	7:20
R25	7:10	7:50	8:30	9:10	5:50	R25	7:10	7:50	8:50	6:20	7:00	8:00	5:40	R25	8:10	7:10
R26	7:10	7:50	8:30	9:10	5:50	R26	7:10	7:50	9:00	6:20	7:00	8:10	5:40	R26	8:10	7:10
R27	7:00	7:40	8:30	9:10	5:40	R27	7:00	7:30	8:50	6:10	6:40	7:50	5:30	R27	8:10	7:00
R28	6:00	6:40	8:30	9:10	4:50	R28	6:10	6:50	7:40	5:10	5:40	6:40	4:40	R28	8:10	6:10
R29	5:50	6:30	7:00	7:40	4:50	R29	5:50	6:40	7:40	5:00	5:20	6:30	4:40	R29	8:10	5:50
R30	5:50	6:30	7:00	7:40	4:50	R30	5:50	6:40	7:40	5:00	5:30	6:30	4:40	R30	8:00	5:50
R31	5:50	6:30	7:00	7:40	4:40	R31	5:50	6:40	7:40	5:00	5:20	6:30	4:30	R31	8:10	5:50
R32	5:50	6:30	7:00	7:40	4:40	R32	5:50	6:40	7:40	5:00	5:20	6:30	4:30	R32	8:10	5:50
R33	6:20	7:10	7:00	7:40	4:40	R33	6:30	7:20	8:30	5:00	5:20	6:30	4:30	R33	8:40	6:00
R34	6:20	7:10	7:00	7:40	4:40	R34	6:30	7:20	8:30	5:00	5:20	6:30	4:30	R34	8:40	6:00
R35	6:30	7:10	7:00	7:40	5:00	R35	6:30	7:20	8:30	5:30	6:00	6:50	5:00	R35	8:40	6:30

TABLE C-8

Region 1 - Entire 2-Mile Ring

Table C-8 Times to Clear the Indicated Areas for the Entire Evacuation Population for Region R1

KLD ID NUMBER	Protective Action Area	Scenario													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Briarcliff Manor														
2	Central Town of Clarkstown														
3	Ramapo														
4	Northeastern & Eastern Town of Clarkstown														
5	Northwestern Town of Clarkstown														
6	Ossining														
7	Village of Haverstraw														
8	Town of New Castle														
9	Village of West Haverstraw														
10	Unincorporated Areas of the Town of Haverstraw														
11	Town of Tuxedo														
12	Village of Pomona														
13	Grassy Point														
14	Croton-on-Hudson														
15	Stony Point														
16	Verplanck	4:20	4:50	3:30	3:50	3:00	4:30	5:00	5:40	3:30	3:40	4:10	3:00	3:30	4:30
17	Tompkins Cove	4:00	4:00	3:00	3:05	3:00	4:00	4:00	5:05	3:00	3:05	4:00	3:00	3:00	4:00
18	Buchanan	4:40	5:10	3:35	4:00	3:00	4:40	5:10	5:50	3:30	3:50	4:20	3:00	3:30	4:40
19	Montrose	4:40	5:10	3:50	4:00	3:50	4:50	5:10	5:50	3:50	4:00	4:50	3:50	3:50	4:50
20	Town of Tuxedo														
21	Jones Point	3:50	3:50	2:40	2:40	2:40	3:50	3:50	4:50	2:40	2:40	3:45	2:40	2:40	3:50
22	Village of Harriman														
23	City of Peekskill	5:00	5:20	4:30	4:50	3:50	5:10	5:30	5:50	4:20	4:50	5:20	3:50	4:20	5:10
24	Town of Cortlandt														
25	Bear Mountain State Park	3:55	3:55	3:30	4:00	3:00	3:55	3:55	5:00	3:00	3:00	4:05	3:00	3:00	3:55
26	Town of Highlands														
27	Harriman State Park														
28	Town of Yorktown														
29	Town of Somers														
30	Town of Highlands														
31	Southwest Carmel														
32	Village of Highland Falls														
33	Lower Philipstown														
34	Village-Town of Woodbury														
35	West Point														
36	Southern Putnam Valley														
37	Town of Highlands														
38	Hudson River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39	Town of Cornwall														
40	Southern Philipstown														
	Region ETE	5:00	5:20	4:30	4:50	3:50	5:10	5:30	5:50	4:20	4:50	5:20	3:50	4:20	5:10

TABLE C-9

Region 2 - Entire 5-Mile Ring

Table R2-1 Time to Clear the Indicated Areas for 100% Evacuation Population for Region R2

KLD ID NUMBER	Protective Action Area	Scenario													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Briarcliff Manor														
2	Central Town of Clarkstown														
3	Ramapo														
4	Northeastern & Eastern Town of Clarkstown														
5	Northwestern Town of Clarkstown														
6	Ossining														
7	Village of Haverstraw	4:50	5:20	4:40	5:10	4:30	4:50	5:20	6:10	4:40	5:10	6:00	4:30	4:40	4:50
8	Town of New Castle														
9	Village of West Haverstraw	4:40	5:00	4:10	4:30	4:00	4:40	5:10	5:40	4:10	4:30	5:10	4:00	4:10	4:40
10	Unincorporated Areas of the Town of Haverstraw	5:20	5:40	5:00	5:10	4:30	5:20	5:40	6:20	4:50	5:10	5:40	4:30	4:50	5:20
11	Town of Tuxedo														
12	Village of Pomona														
13	Grassy Point	3:50	3:50	2:40	2:40	2:40	3:50	3:50	4:50	2:40	2:40	3:50	2:40	2:40	3:50
14	Croton-on-Hudson	5:25	6:00	6:30	7:00	4:00	5:30	6:00	6:50	4:40	5:00	5:25	4:00	4:40	5:30
15	Stony Point	4:50	5:10	4:20	4:40	4:05	4:50	5:10	5:50	4:15	4:30	5:10	4:00	4:15	4:50
16	Verplanck	5:00	5:30	4:30	4:50	3:30	5:00	5:30	6:20	4:20	4:40	5:00	3:30	4:20	5:00
17	Tompkins Cove	4:00	4:00	3:40	3:50	3:40	4:00	4:00	5:00	3:40	3:50	4:50	3:50	3:40	4:00
18	Buchanan	5:10	5:50	4:20	4:45	3:25	5:20	5:50	6:40	4:10	4:40	5:00	3:20	4:10	5:20
19	Montrose	5:20	5:50	4:40	5:10	3:55	5:20	5:50	6:40	4:30	4:50	5:10	3:50	4:30	5:20
20	Town of Tuxedo														
21	Jones Point	3:50	3:50	2:40	2:40	2:40	3:50	3:50	4:50	2:40	2:40	3:45	2:40	2:40	3:50
22	Village of Harriman														
23	City of Peekskill	5:35	6:00	4:50	5:10	4:10	5:40	6:05	6:40	4:50	5:10	5:50	4:10	4:50	5:40
24	Town of Cortlandt	5:45	6:10	5:10	5:30	4:30	5:50	6:10	7:10	5:00	5:20	6:20	4:30	5:05	5:50
25	Bear Mountain State Park	4:00	4:00	3:30	4:00	3:05	4:00	4:05	5:05	3:05	3:05	4:10	3:05	3:05	4:00
26	Town of Highlands	4:00	4:00	3:00	3:00	3:00	4:00	4:00	5:00	3:00	3:00	4:05	3:00	3:00	4:00
27	Harriman State Park	4:45	5:15	5:00	5:30	4:05	4:50	5:15	5:50	4:15	4:35	5:15	4:05	6:00	5:00
28	Town of Yorktown														
29	Town of Somers														
30	Town of Highlands	4:00	4:00	3:00	3:00	3:00	4:00	4:00	5:00	3:00	3:00	4:05	3:00	3:00	4:00
31	Southwest Carmel														
32	Village of Highland Falls	4:00	4:00	3:55	3:50	3:55	4:00	4:00	5:05	3:55	3:50	4:50	3:50	7:30	4:00
33	Lower Philipstown	5:50	6:10	5:00	5:25	4:25	5:50	6:15	6:50	5:00	5:20	6:05	4:20	5:00	5:50
34	Village-Town of Woodbury														
35	West Point	5:50	6:20	4:20	4:20	4:00	5:50	6:30	7:30	4:10	4:10	5:00	4:00	7:50	4:40
36	Southern Putnam Valley														
37	Town of Highlands	5:50	6:20	4:20	4:30	4:05	5:50	6:30	7:30	4:10	4:20	5:00	4:00	7:50	4:30
38	Hudson River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39	Town of Cornwall														
40	Southern Philipstown														
	Region ETE	5:50	6:20	6:30	7:00	4:30	5:50	6:30	7:30	5:00	5:20	6:20	4:30	7:50	5:50

TABLE C-10

Region R3 – Entire 10-Mile EPZ

Table R3 - Time to Clear the Indicated Area of 100 Percent of the Evacuating Population for Region R3

KLD ID NUMBER	Protective Action Area	Scenario													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Briarcliff Manor	7:05	7:55	8:30	9:10	5:30	7:10	8:00	9:05	6:10	6:45	7:50	5:20	6:10	7:10
2	Central Town of Clarkstown	5:45	6:15	5:10	5:40	4:50	5:40	6:15	7:00	5:10	5:35	6:20	4:50	5:10	5:40
3	Ramapo	5:40	6:15	5:10	5:40	4:50	5:40	6:15	6:50	5:10	5:30	6:15	4:50	5:10	5:40
4	Northeastern & Eastern Town of Clarkstown	5:00	5:35	4:50	5:20	4:45	5:00	5:40	6:30	4:50	5:20	6:10	4:45	4:50	5:00
5	Northwestern Town of Clarkstown	5:25	5:50	5:00	5:20	4:40	5:30	5:55	6:45	5:00	5:10	6:00	4:40	5:00	5:30
6	Ossining	6:20	7:00	8:30	9:10	4:50	6:20	7:00	7:40	5:20	5:40	6:20	4:35	5:20	6:20
7	Village of Haverstraw	4:55	5:30	4:40	5:10	4:40	4:55	5:30	6:25	4:40	5:10	6:00	4:40	4:40	4:55
8	Town of New Castle	7:05	8:00	6:20	6:55	5:35	7:15	8:00	9:05	6:10	6:45	7:50	5:20	6:10	7:15
9	Village of West Haverstraw	5:20	5:50	4:50	5:20	4:30	5:20	5:50	6:40	4:40	5:10	6:00	4:20	4:40	5:20
10	Unincorporated Areas of the Town of Haverstraw	5:40	6:10	5:10	5:40	4:50	5:35	6:10	6:50	5:10	5:30	6:10	4:45	5:10	5:35
11	Town of Tuxedo	2:50	2:50	2:00	2:10	2:00	2:50	2:50	3:50	2:00	2:10	3:40	2:00	2:00	2:50
12	Village of Pomona	5:40	6:10	5:10	5:40	4:50	5:40	6:15	6:50	5:10	5:30	6:10	4:50	5:10	5:40
13	Grassy Point	3:50	3:50	2:40	2:40	2:40	3:50	3:50	4:50	2:40	2:40	3:50	2:40	2:40	3:50
14	Croton-on-Hudson	6:10	7:00	8:30	9:10	4:40	6:10	6:50	7:35	5:10	5:30	6:00	4:30	5:10	6:10
15	Stony Point	5:30	5:50	4:50	5:15	4:30	5:30	5:50	6:40	4:50	5:10	5:50	4:20	4:50	5:30
16	Verplanck	5:50	6:30	5:00	5:30	4:10	5:50	6:30	7:10	4:50	5:10	5:40	4:00	4:50	5:50
17	Tompkins Cove	4:00	4:00	3:50	4:00	3:40	4:00	4:00	5:00	3:40	3:50	4:50	3:50	3:40	4:00
18	Buchanan	6:00	6:50	5:00	5:30	4:00	6:00	6:40	7:30	4:40	5:10	5:30	3:50	4:40	6:00
19	Montrose	6:10	6:50	5:30	6:00	4:45	6:10	6:50	7:30	5:10	5:30	6:15	4:30	5:10	6:10
20	Town of Tuxedo	2:40	2:40	1:50	1:50	1:50	2:40	2:40	3:40	1:50	1:50	3:50	1:50	1:50	2:40
21	Jones Point	3:50	3:50	2:40	2:40	2:40	3:50	3:50	4:50	2:40	2:40	3:45	2:40	2:40	3:50
22	Village of Harriman	4:10	4:10	3:40	4:10	3:10	4:10	4:10	5:15	3:10	3:10	4:20	3:10	6:00	5:00
23	City of Peekskill	6:55	7:35	5:50	6:30	5:10	7:00	7:40	8:40	5:50	6:25	7:40	5:10	5:50	7:00
24	Town of Cortlandt	7:20	8:20	6:30	7:30	6:10	7:20	8:20	9:50	6:30	7:20	9:00	6:10	6:30	7:20
25	Bear Mountain State Park	4:05	4:05	3:30	4:00	3:05	4:00	4:05	5:05	3:05	3:05	4:10	3:05	3:05	4:00
26	Town of Highlands	4:00	4:00	3:00	3:00	3:00	4:00	4:00	5:00	3:00	3:00	4:05	3:00	3:00	4:00
27	Harriman State Park	5:20	5:55	5:00	5:30	4:30	5:20	5:55	6:40	4:50	5:05	6:00	4:25	6:00	5:15
28	Town of Yorktown	7:20	8:10	6:55	7:30	6:00	7:25	8:10	9:10	6:30	7:10	8:20	5:50	6:30	7:25
29	Town of Somers	7:30	8:20	7:00	7:30	6:10	7:30	8:20	9:20	6:40	7:20	8:30	5:55	6:40	7:30
30	Town of Highlands	4:00	4:00	3:00	3:00	3:00	4:00	4:00	5:00	3:00	3:00	4:05	3:00	3:00	4:00
31	Southwest Carmel	7:05	7:55	6:30	7:10	6:00	7:15	8:00	9:00	6:30	7:00	8:20	6:00	6:30	7:15
32	Village of Highland Falls	4:00	4:00	3:55	3:50	3:55	4:00	4:00	5:05	3:55	3:50	4:50	3:50	7:40	4:00
33	Lower Philipstown	7:00	7:40	5:55	6:35	5:00	7:05	7:50	8:45	5:50	6:30	7:30	4:50	5:50	7:05
34	Village-Town of Woodbury	4:05	4:05	3:55	3:55	3:55	4:05	4:05	5:05	3:55	3:55	4:50	3:55	3:55	4:05
35	West Point	5:50	6:40	4:20	4:30	4:00	6:00	6:40	7:50	4:10	4:10	5:00	4:00	8:10	4:40
36	Southern Putnam Valley	7:40	8:30	7:10	7:50	6:30	7:40	8:30	9:50	7:00	7:30	9:00	6:30	7:10	7:40
37	Town of Highlands	6:00	6:50	4:20	4:40	4:05	6:10	7:00	8:00	4:10	4:30	5:20	4:00	8:30	4:40
38	Hudson River	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39	Town of Cornwall	6:30	7:20	4:40	5:10	4:05	6:40	7:30	8:40	4:20	5:00	5:50	4:00	8:40	5:00
40	Southern Philipstown	7:10	7:50	6:20	6:40	5:40	7:10	7:55	8:50	6:10	6:35	7:35	5:40	6:10	7:10
	Region ETE	7:40	8:30	8:30	9:10	6:30	7:40	8:30	9:50	7:00	7:30	9:00	6:30	8:40	7:40

TABLE C-11

School Evacuation Time Estimates

	Region Extends to 5 Miles			Region Extends to EPZ Boundary		
County	**Good Weather**	**Rain**	**Snow**	**Good Weather**	**Rain**	**Snow**
Orange	2:50	3:00	3:50	3:30	3:45	4:50
Putnam	2:40	2:45	3:25	3:10	3:20	3:50
Rockland	2:45	2:50	3:25	3:20	3:30	4:10
Westchester	3:00	3:10	3:50	3:45	4:10	4:50

TABLE C-12

Transit-Dependent Evacuation Time Estimates

County	Region Extends to 5 Miles			Region Extends to EPZ Boundary			Second Wave Completion (if needed)		
	Good Weather	Rain	Snow	Good Weather	Rain	Snow	Good Weather	Rain	Snow
Orange	4:35	5:25	5:55	6:00	7:10	7:40	8:55	10:05	10:35
Putnam	4:10	4:50	5:00	5:10	6:00	6:30	8:05	8:55	9:25
Rockland	4:20	5:05	5:35	5:30	6:30	7:00	8:25	9:25	9:55
Westchester	5:25	6:00	6:30	7:10	8:20	8:50	10:05	11:15	11:45

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX D
EVACUATION ROUTES AND RESOURCES

1. EVACUATION ROUTES

a. Primary Routes

(1) Palisades Interstate Parkway-both Southbound and Northbound from Exit 15 to Exit 9 could be used to carry evacuating traffic in a southerly direction. All access to the PIP between Exits 15 and 5 would be controlled by police if the northbound lanes of the PIP are utilized for southbound traffic. Note that parkway overpass/bridge vertical clearances are shown in Table D-4.

(2) NYS Thruway between Exits 12 and 15-access to the Thruway will be controlled by police at Exit 13.

(3) Evacuating traffic will move south on the Parkway to the Thruway interchange at Exit 9 where it will split as follows:

* The right lane of the Southbound lane will exit on to the Westbound lane of the Thruway and proceed to Thruway Exit 14A where it will either move onto the Garden State Parkway or onto Rte. 59 to Rte. 45 to proceed to the Reception Center at South Spring Valley, or stay on the Thruway to either Exit 14B (onto Airmont Rd.) and proceed to Reception Centers in Suffern or to Exit 15 (onto Rte. 17).

* The left lane of the Southbound lane will exit onto the Eastbound lane of the Thruway and proceed to Thruway Exit 12 where it will move onto Rte. 303 and go south to the Reception Center in Orangeburg.

* The right lane of the normally Northbound lane just below the Thruway will cross over to the regular Southbound right lane and go to Exit 6 and then west on Veterans Memorial Drive to the Reception Center in Pearl River.

* The left lane of the normally Northbound lane just below the Thruway will cross over to the regular Southbound left lane and proceed on the Parkway to Exit 6 where it will move onto Orangeburg Rd. East to Dutch Hill Rd. and go to the Reception Center in Orangeburg.

b. Secondary Routes

(1) Route 303 from its intersection with Route 9W north of Congers-evacuating traffic will go south on Rte. 303 to the Reception Center in Orangeburg.

(2) Route 304 from its intersection with Route 9W north of Congers-evacuating traffic will go west and then south on Rte. 304 through New City to the Reception Center in Pearl River.

(3) Route 202 from its intersection with Route 9W at Haverstraw-evacuating traffic will go west on Rte. 202 to the Reception Center in Suffern.

(4) Route 45 from its intersection with Route 202 at Mt. Ivy-evacuating traffic will go south on Rte. 45 to the Reception Center in South Spring Valley.

(5) Route 9W to its intersection with Route 210 at Stony Point-evacuating traffic will go west on Rte. 210 to Exit 15 of the PIP and proceed south on the Parkway as described in paragraph I.a.(3).

(6) Ridge Road from its intersection with Route 304 west of Lake DeForest to Strawtown Rd.-evacuating traffic will go south on Strawtown Rd. to either DeMarest Ave. in West Nyack to Rte. 59A to Rte. 304 to the Reception Center in Pearl River, or to Rte. 59 East in West Nyack to Rte. 303 to the Reception Center in Orangeburg.

(7) Route 9W north from its northernmost intersection with West Shore Rd. to Bear Mountain traffic circle to Rte. 6 west to Rte. 17 south to the Reception Center in Suffern.

(8) Gurnee Avenue in Haverstraw to north on Rte. 9W to Railroad Ave., west to Suffern Lane to Letchworth Village Rd. and Willow Grove Rd., to the PIP at Exit 14, or south on Thiells-Mt. Ivy Rd. from Suffern Lane to Rte. 202 to the PIP at Exit 13 and proceed south as described in paragraph 1.a.(3).

(9) Gurnee Avenue in Haverstraw to Route 202, west to Central Highway, south to Little Tor Rd., south to the PIP at Exit 10 or continuing onto Middletown Rd. to the Reception Center in Pearl River, or continue on Rte. 202 to the PIP at Exit 13 and proceed south as described in paragraph I.a.(3).

(10) Westside Avenue in Haverstraw north to Samsondale Ave. to Railroad Ave, west to Suffern Lane to Thiells-Mt. Ivy Rd., south to Rte. 202 to the PIP at Exit 13, or north on Rte. 9w to Filors Lane, west to Willow Grove Rd. to the PIP at Exit 14 and proceed south as described in paragraph I.a.(3).

(11) Old Route 304 at 9W in Haverstraw to either Ridge Rd. to Rte. 304 south to the Reception Center in Pearl River, or at Ridge Rd. follow South Mountain Rd. (weather permitting) to Haverstraw Rd. to New City to pick up Rte. 304 south.

(12) Zukor Road from its intersection with South Mountain Rd. to Main St., south to Squadron Blvd. or Calvary Dr., east to pickup Rte. 304 south to the Reception Center in Pearl River.

(13) Old Haverstraw Rd. to Kings Highway to Casper Hill Rd. to Rte. 303 to the Reception Center in Orangeburg. Alternate route would be east on New Lake Rd. to Rte. 303 south to Orangeburg.

(14) Route 9W south from Haverstraw through Nyack to Rte. 340 west (Orangeburg Rd.) at Sparkill to the Reception Center in Orangeburg.

c. Feeder Routes

A Feeder route is any street or highway which the evacuating public will use to reach either a Primary or Secondary route described in paragraphs a. and b. above.

d. Routes for Incoming Emergency Traffic

Access will be reserved on the following routes for only emergency vehicles, emergency workers cars, or incoming buses. Other routes may be designated by the police at the time of an emergency if required.

(1) Route 306 from the intersection with Rte. 59 north to the intersection with Rte. 202-incoming traffic will then proceed north on Call Hollow Rd. to Willow Grove Rd. to destinations east of the PIP.

(2) Route 210 from the intersection with Rte. 17 at Greenwood Lake east to Gate Hill Rd.-incoming traffic will then proceed east on Gate Hill Rd. to Willow Grove Rd. to destinations east of the PIP.

(3) If weather and road conditions permit, Sebago Lake Rd. from Suffern east to Seven Lakes Rd. to Lake Welch Parkway to either Rte. 210 or Exit 16 of the PIP can be used for incoming emergency traffic.

2. ACCESS CONTROL POINTS

a. Key Intersections (Refer to Table D-1)

Note: Traffic diagrams are maintained under separate cover.

(NOT USED)

TABL
TRAFFIC CO L POINTS

TCP ID NUMBER	STATE ID	PRIORITY	LOCATION/INTERSECTION	AREA	TOWN	DIAGRAM NO.
PK-10		1	Germonds Road/Palisades Pkwy Exit 10 & N Little Tor Rd	Central Town of Clarkstown	Clarkstown	C-1
PK-11		1	Palisades Parkway Exit 11	Central Town of Clarkstown	Clarkstown	C-2
R-101		1	Strawtown Road/Sickletown Road and Route 59	Shadow	Clarkstown	C-3
R-14		1	Route 9W and Route 304	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-4
R-57		1	New Clarkstown Road and Route 59	Shadow	Clarkstown	C-5
R-82	R-164	1	Route 9W and Route 303	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-6
TWY-11E		1	Route 59 & Access Ramps to I-87/287 E	Shadow	Clarkstown	C-7
TWY-11W		1	Route 59 & Access Ramps to I-87/287 W	Shadow	Clarkstown	C-8
TWY-12		1	NYS Thruway Exit 12	Shadow	Clarkstown	C-9
TWY-13		1	NYS Thruway Exit 13	Shadow	Clarkstown	C-10
TWY-14		1	Route 59 & Access Ramps to I-87/287	Shadow	Clarkstown	C-11
R-100		2	Strawtown Road and Route 59A	Shadow	Clarkstown	C-12
R-15		2	Route 303 and Storms Road/Crusher Road	Shadow	Clarkstown	C-13
R-17		2	Route 304 and South Main Street	Central Town of Clarkstown	Clarkstown	C-14
R-18		2	Route 304 and Germonds Road	Central Town of Clarkstown	Clarkstown	C-15
R-21	R-24	2	Route 303 and Lake Road North	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-16
R-22	R-21	2	Route 303 and Lake Road South	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-17
R-229		2	Eckerson Road and W. Clarkstown Road	Central Town of Clarkstown	Clarkstown	C-18
R-264		2	Route 9W and Birchwood Avenue	Shadow	Clarkstown	C-19
R-272		2	N. Little Tor Road and Phillips Hill Road	Northwestern Town of Clarkstown	Clarkstown	C-20
R-30		2	N. Little Tor Road and New Valley/Milich Lane	Central Town of Clarkstown	Clarkstown	C-21
R-31		2	N. Little Tor Road and New Hempstead Road	Central Town of Clarkstown	Clarkstown	C-22
R-32	R-115	2	Route 304 and Cavalry Drive	Central Town of Clarkstown	Clarkstown	C-23
R-34		2	Route 304 and Laurel Road	Central Town of Clarkstown	Clarkstown	C-24
R-37		2	N. Main Street and Cavalry Drive	Central Town of Clarkstown	Clarkstown	C-25
R-48		2	Strawtown Road and Old Mill Road/Germonds Road	Shadow	Clarkstown	C-26
R-51		2	Route 9W and Christian Herald Road	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-27
R-64		2	Strawtown Road/Ridge Road and Congers Road	Central Town of Clarkstown	Clarkstown	C-28
R-67		2	New Hempstead Road and North Main Street	Central Town of Clarkstown	Clarkstown	C-29
R-68		2	Congers Road and North Main Street	Central Town of Clarkstown	Clarkstown	C-30
R-77	R-5	2	Route 9W and Lake Road	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-31
R-79		2	Route 9W and Rockland Lake Road	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-32
R-85	R-195	2	Route 303 and Gilchrest Road	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-33
R-86		2	Route 303 and Casper Hill Road	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-34
R-90		2	Route 304 and New City-Congers Road	Central Town of Clarkstown	Clarkstown	C-35
R-97		2	Strawtown Road and McCarthy Way	Central Town of Clarkstown	Clarkstown	C-36
R-99		2	Strawtown Road and DeMarest Road	Shadow	Clarkstown	C-37
R-25		3	Kings Highway and New Lake Road/Karin Court	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-38

TABLE D-1
TRAFFIC CONTROL POINTS

TCP ID NUMBER	STATE ID	PRIORITY	LOCATION/INTERSECTION	AREA	TOWN	DIAGRAM NO.
R-61		3	New Clarkstown Road and Smith Road	Shadow	Clarkstown	C-39
R-65		3	Congers Rd/Lake Rd and Kigs Hwy/Old Haverstraw Rd	Northeastern & Eastern Town of Clarkstown	Clarkstown	C-40
R-104	R-143	1	Route 202 and Central Highway (South)	Village of West Haverstraw	Haverstraw	H-1
R-105	R-136	1	Route 202 and Main Street/Central Highway (North)	Village of West Haverstraw	Haverstraw	H-2
R-12		1	Route 45 and Route 202	Unincorporated Areas of the Town of Haverstraw	Haverstraw	H-3
R-16	R-198	1	Route 202 and Hurd Avenue/Bridge Street	Village of West Haverstraw	Haverstraw	H-4
R-217	R-39	1	Route 9W and New Main Street	Village of Haverstraw	Haverstraw	H-5
R-218		1	Route 9W and Gurnee Avenue	Village of Haverstraw	Haverstraw	H-6
R-7	R-8	1	Route 9W and Railroad Avenue	Village of Haverstraw	Haverstraw	H-7
R-78	R-185	1	Route 202 and Palisades Parkway Ramp, Exit 13	Village of Pomona	Haverstraw	H-8
R-81	R-6	1	Route 9W and Route 202/West Side Avenue	Village of Haverstraw	Haverstraw	H-9
R-89		1	Route 202 and Thiells-Mt. Ivy Road	Unincorporated Areas of the Town of Haverstraw	Haverstraw	H-10
R-11		2	W. Railroad Avenue/Suffern Lane and Central Hgwy/Main St	Village of West Haverstraw	Haverstraw	H-11
R-13	R-200	2	Route 202 and Martino Way	Unincorporated Areas of the Town of Haverstraw	Haverstraw	H-12
R-212		2	Suffern Lane and Hammond Road	Unincorporated Areas of the Town of Haverstraw	Haverstraw	H-13
R-9		2	Route 9W and Old Route 304/Haverstraw Road	Village of Haverstraw	Haverstraw	H-14
R-91	R-163	2	Route 202 and Rosman Road	Unincorporated Areas of the Town of Haverstraw	Haverstraw	H-15
PK-5		1	Palisades Parkway Exit 5	Shadow	Orangetown	O-1
PK-6		1	Palisades Parkway Exit 6	Shadow	Orangetown	O-2
PK-7		1	Palisades Parkway Exit 7	Shadow	Orangetown	O-3
PK-8		1	Palisades Parkway Exit 8	Shadow	Orangetown	O-4
PK-12		1	Route 45, Palisades Pkwy Exit 12 and Conklin Road	Northwestern Town of Clarkstown	Ramapo	R-1
PK-13		1	Palisades Parkway Exit 13	Village of Pomona	Ramapo	R-2
R-207		1	Route 17 and Seven Lakes Road	Shadow	Ramapo	R-3
R-209		1	N. Airmont Road/Highview Road and Spook Rock Road	Shadow	Ramapo	R-4
R-27	R-73	1	Route 45 and New Hempstead Road	Northeastern Town of Ramapo	Ramapo	R-5
R-28	R-29	1	Route 45 and Eckerson Road	Northeastern Town of Ramapo	Ramapo	R-6
R-29	R-138	1	Route 306/Calls Hollow Road and Route 202	Village of Pomona	Ramapo	R-7
R-33	R-93	1	Route 306 and Viola Road	Northeastern Town of Ramapo	Ramapo	R-8
R-45		1	W. Eckerson Road and Union Road	Northeastern Town of Ramapo	Ramapo	R-9
R-54		1	New County Road/College Road and Route 59	Shadow	Ramapo	R-10
R-55		1	Cherry Lane/Spook Rock Road and Route 59	Shadow	Ramapo	R-11
R-56		1	Airmont Road and Route 59	Shadow	Ramapo	R-12
R-92		1	Route 45 and Maple Avenue	Shadow	Ramapo	R-13
R-93		1	Route 45 and Route 59	Shadow	Ramapo	R-14

TABL
TRAFFIC CO L POINTS

TCP ID NUMBER	STATE ID	PRIORITY	LOCATION/INTERSECTION	AREA	TOWN	DIAGRAM NO.
R-94	R-89	1	Route 306 and Grandview Avenue	Northeastern Town of Ramapo	Ramapo	R-15
R-95		1	Route 306 and Maple Avenue	Shadow	Ramapo	R-16
R-96		1	Route 306 and Route 59	Shadow	Ramapo	R-17
R-School-1		1	Grandview Avenue and Forshay Road	Northeastern Town of Ramapo	Ramapo	R-18
R-School-2		1	Route 202 and Viola Road	Shadow	Ramapo	R-19
R-School-3		1	Spook Rock Road and Viola Road	Northeastern Town of Ramapo	Ramapo	R-20
R-School-4		1	Viola Road and College Road	Northeastern Town of Ramapo	Ramapo	R-21
R-School-5	R-93	1	Route 306 and Viola Road	Northeastern Town of Ramapo	Ramapo	R-22
R-School-6		1	N. Airmont Road/Highview Road and Spook Rock Road	Shadow	Ramapo	R-23
R-School-7		1	Highview Road and College Road	Shadow	Ramapo	R-24
TWY-14B		1	North Airmont Road and I-87/287 Ramps	Shadow	Ramapo	R-25
TWY-15		1	NYS Thruway Exit 15	Shadow	Ramapo	R-26
R-10		2	Viola Road and College Road	Northeastern Town of Ramapo	Ramapo	R-27
R-245		2	Eckerson Road and Hempstead Road	Northeastern Town of Ramapo	Ramapo	R-28
R-251		2	New Hempstead Road and Summit Park Road	Northeastern Town of Ramapo	Ramapo	R-29
R-26	R-126	2	Route 45 and Pomona Road	Village of Pomona	Ramapo	R-30
R-47		2	Grandview Avenue and Forshay Road	Northeastern Town of Ramapo	Ramapo	R-31
R-49	R-91	2	Route 306 and Lime Kiln Road	Northeastern Town of Ramapo	Ramapo	R-32
R-58		2	Highview Road and College Road	Shadow	Ramapo	R-33
R-60		2	Route 202 and Viola Road	Shadow	Ramapo	R-34
R-72		2	Route 306 and Willow Tree Road	Shadow	Ramapo	R-35
R-74	R-162	2	Route 202 and Camp Hill Road	Village of Pomona	Ramapo	R-36
R-7B		2	Seven Lakes Road and Johnstown Road	Shadow	Ramapo	R-37
R-63B		3	Spook Rock Road and Carlton Road	Shadow	Ramapo	R-38
PK-14		1	Palisades Pkwy Exit 14 and Willow Grove Road	Stony Point	Stony Point	S-1
PK-15		1	Palisades Parkway Exit 15	Stony Point	Stony Point	S-2
PK-16		1	Palisades Parkway Exit 16	Bear Mountain State Park	Stony Point	S-3
R-103		1	Route 210/Route 106 and Central Highway	Bear Mountain State Park	Stony Point	S-4
R-83	R-9	1	Route 9W and Main Street	Bear Mountain State Park	Stony Point	S-5
R-84	R-120	1	Route 9W and Filors Lane	Bear Mountain State Park	Stony Point	S-6
R-88	R-116	1	Route 9W and Route 210/Route 106	Bear Mountain State Park	Stony Point	S-7
R-102		2	Route 210 and Thiells Road	Bear Mountain State Park	Stony Point	S-8
R-2		2	Filors Lane and Central Highway	Bear Mountain State Park	Stony Point	S-9
PK-17		1	Palisades Parkway Exit 17	Harriman State Park	Woodbury	W-1
PK-18		1	Palisades Parkway Exit 18	Harriman State Park	Woodbury	W-2

(NOT USED)

b. Prohibit Ingress to Areas (Refer to Table D-2)

The following table is used when evacuation is of a portion of the EPZ or is staged by Areas. The appropriate control points to establish are those at the perimeter of the Area or combined Areas that are being evacuated. Interior control points along common Area boundaries that are being evacuated should not be manned.

(NOT USED)

TABLE D-2
ACCESS CONTROL POINTS TO PROHIBIT AREA INGRESS

TO PROHIBIT INGRESS TO AREA	ACP NO.	TRAFFIC PROHIBITED ON	INTERSECTING ROAD	TOWN
Tompkins Cove	R-52	Route 9W	West Shore Rd.	Stony Point
Tompkins Cove	R-53	Buckberg Rd.	Mott Farm Rd.	Stony Point
Tompkins Cove	R-54	Route 9W	Wayne Ave.	Stony Point
Tompkins Cove	R-55	Route 9W	Park Rd.	Stony Point
Stony Point	R-53	Mott Farm Rd.	Buckberg Rd.	Stony Point
Stony Point	R-56	Route 210	Cedar Flat Rd.	Stony Point
Stony Point	PK-15	Route 210	PIP	Stony Point
Stony Point	R-57	Willow Grove Rd.	Gate Hill Rd.	Stony Point
Stony Point	R-58	Willow Grove Rd.	Call Hollow Rd.	Stony Point
Stony Point	PK-14	Willow Grove Rd.	PIP	Stony Point
Stony Point	R-59	Letchworth Village Rd.	Willow Grove Rd.	Stony Point
Stony Point	R-60	Hammond Rd.	Filors Ln.	Stony Point
Stony Point	R-61	Central Highway	Cinder Rd.	Haverstraw
Grassy Point	R-7	Route 9W	Railroad Ave.	Haverstraw
Grassy Point	R-62	Grassy Point Rd.	Beach Rd.	Haverstraw
Stony Point	R-55	Route 9W	Park Rd.	Stony Point
Stony Point	R-54	Wayne Ave.	Route 9W	Stony Point
Village of West Haverstraw	R-62	Grassy Point Rd.	Beach Rd.	Haverstraw
Village of West Haverstraw	R-7	Route 9W	Railroad Ave.	Haverstraw
Village of West Haverstraw	R-61	Central Highway	Cinder Rd.	Haverstraw
Stony Point	R-60	Hammond Rd.	Filors Ln.	Haverstraw
Stony Point	R-59	Letchworth Village Rd.	Willow Grove Rd.	Haverstraw
Stony Point	PK-14	Willow Grove Rd.	PIP	Haverstraw
Unincorporated Areas of the Town of Haverstraw	R-12	Route 202	Route 45	Haverstraw
Northeastern & Eastern Town of Clarkstown	R-63	Central Highway	South Mountain Rd.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-14	Route 9W	Route 304	Clarkstown
Village of Haverstraw	R-9	Route 9W	Haverstraw/South Mountain Rd.	Haverstraw
Northwestern Town of Clarkstown	R-16	Route 304	Goebel Rd.	Clarkstown
Northwestern Town of Clarkstown	R-64	Congers Rd.	Strawtown Rd.	Clarkstown
Northwestern Town of Clarkstown	R-65	Kings Highway	Lake Rd.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-22	Route 303	Lake Rd. N.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-77	Route 9W	Lake Rd.	Clarkstown

TABLE D-2
ACCESS CONTROL POINTS TO PROHIBIT AREA INGRESS

TO PROHIBIT INGRESS TO AREA	ACP NO.	TRAFFIC PROHIBITED ON	INTERSECTING ROAD	TOWN
Northeastern & Eastern Town of Clarkstown	R-79	Route 9W	Lake Rd. S.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-51	Route 9W	Christian Herald Rd.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-77	Lake Rd. N.	Route 9W	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-21	Route 303	Lake Rd. S.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-65	Kings Highway	Lake Rd.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-64	Strawtown Rd.	Congers Rd.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-16	Route 304	Goebel Rd.	Clarkstown
Northeastern & Eastern Town of Clarkstown	R-66	Main St.	Phillips Hill Rd.	Clarkstown
Central Town of Clarkstown	R-67	Main St.	New Hempstead Rd.	Clarkstown
Central Town of Clarkstown	R-68	Main St.	New City-Congers Rd.	Clarkstown
Central Town of Clarkstown	R-17	Route 304	South Main St.	Clarkstown
Central Town of Clarkstown	R-18	Route 304	Germonds Rd.	Clarkstown
Central Town of Clarkstown	R-47	Strawtown Rd.	Hillcrest Rd.	Clarkstown
Central Town of Clarkstown	R-48	Strawtown Rd.	Germonds Rd.	Clarkstown
Northwestern Town of Clarkstown	R-49	Old Mill Rd.	Crusher Rd.	Clarkstown
Northwestern Town of Clarkstown	R-24	Kings Highway	Crusher Rd.	Clarkstown
Northwestern Town of Clarkstown	R-50	Christian Herald Rd.	Storms Rd.	Clarkstown
Northwestern Town of Clarkstown	R-51	Route 9W	Christian Herald Rd.	Clarkstown
Northwestern Town of Clarkstown	R-63	Central Highway	South Mountain Rd.	Clarkstown
Northwestern Town of Clarkstown	R-12	Route 45	Route 202	Haverstraw
Northwestern Town of Clarkstown	R-69	Route 45	Conklin Rd.	Ramapo
Northwestern Town of Clarkstown	PK-12	Route 45	PIP	Ramapo
Northwestern Town of Clarkstown	R-70	Buena Vista Rd.	Conklin Rd.	Clarkstown
Northwestern Town of Clarkstown	R-71	Phillips Hill Rd.	Old Phillips Hill Rd.	Clarkstown
Northwestern Town of Clarkstown	R-72	Little Tor Rd.	Phillips Hill Rd.	Clarkstown
Northwestern Town of Clarkstown	R-66	Main St.	Phillips Hill Rd.	Clarkstown
Northwestern Town of Clarkstown	R-16	Route 304	Goebel Rd.	Clarkstown
Northwestern Town of Clarkstown	R-64	Strawtown Rd.	Congers Rd.	Clarkstown
Northwestern Town of Clarkstown	R-14	Route 9W	Route 304	Clarkstown
Northwestern Town of Clarkstown	R-9	Route 9W	Haverstraw Rd.	Clarkstown
Central Town of Clarkstown	R-66	Main St.	Phillips Hill Rd.	Clarkstown
Central Town of Clarkstown	R-72	Little Tor Rd.	Phillips Hill Rd.	Clarkstown
Central Town of Clarkstown	R-71	Phillips Hill Rd.	Old Phillips Hill Rd.	Clarkstown

TABLE D-2
ACCESS CONTROL POINTS TO PROHIBIT AREA INGRESS

TO PROHIBIT INGRESS TO AREA	ACP NO.	TRAFFIC PROHIBITED ON	INTERSECTING ROAD	TOWN
Central Town of Clarkstown	R-70	Buena Vista Rd.	Conklin Rd.	Clarkstown
Central Town of Clarkstown	R-69	Route 45	Conklin Rd.	Ramapo
Central Town of Clarkstown	R-27	Route 45	New Hempstead Rd.	Ramapo
Central Town of Clarkstown	PK-12	Route 45	PIP	Ramapo
Central Town of Clarkstown	R-28	Eckerson Rd.	Route 45	Ramapo
Central Town of Clarkstown	R-46	Middletown Rd.	West Clarkstown Rd.	Clarkstown
Central Town of Clarkstown	R-18	Route 304	Germonds Rd.	Clarkstown
Central Town of Clarkstown	R-17	South Main St.	Route 304	Clarkstown
Central Town of Clarkstown	R-68	Main St.	New City-Congers Rd.	Clarkstown
Central Town of Clarkstown	R-67	New Hempstead Rd.	Main St.	Clarkstown
Village of Pomona	PK-14	Willow Grove Rd.	PIP	Stony Point
Village of Pomona	R-58	Willow Grove Rd.	Call Hollow Rd.	Stony Point
Village of Pomona	R-73	Haverstraw Rd.	Route 306	Ramapo
Village of Pomona	R-78	Quaker Rd.	Route 202	Ramapo
Village of Pomona	PK-13	Route 202	PIP	Ramapo
Village of Pomona	R-74	Camp Hill Rd.	Route 202	Ramapo
Village of Pomona	R-29	Route 306	Route 202	Ramapo
Village of Pomona	R-75	Wilder Ave.	Route 202	Ramapo
Northeastern Town of Ramapo	R-76	Wesley Chapel Rd.	Route 202	Ramapo
Northeastern Town of Ramapo	R-42	Grandview Ave.	Route 202	Ramapo
Northeastern Town of Ramapo	R-43	Viola Rd.	Spook Rock Rd.	Ramapo
Northeastern Town of Ramapo	R-44	Forshay Rd.	Viola Rd.	Ramapo
Northeastern Town of Ramapo	R-33	Route 306	Viola Rd.	Ramapo
Northeastern Town of Ramapo	R-45	Union Rd.	Viola Rd.	Ramapo
Northeastern Town of Ramapo	R-28	Route 45	Eckerson Rd.	Ramapo
Northeastern Town of Ramapo	R-27	New Hempstead Rd.	Route 45	Ramapo
Village of Pomona	R-26	Pomona Rd.	Route 45	Ramapo
Jones Point	R-36	Route 9W	Bear Mountain Circle	NY State
Jones Point	R-52	Route 9W	West Shore Rd.	Stony Point
Jones Point	R-80	Seven Lakes Dr.	Long Mountain Circle	NY State

TABLE D-2
ACCESS CONTROL POINTS TO PROHIBIT AREA INGRESS

TO PROHIBIT INGRESS TO AREA	ACP NO.	TRAFFIC PROHIBITED ON	INTERSECTING ROAD	TOWN
Bear Mountain State Park	R-36	Route 9W	Bear Mountain Circle	NY State
Bear Mountain State Park	R-37	PIP	Bear Mountain Circle	NY State
Bear Mountain State Park	R-38	Long Mountain Circle	Bear Mountain Circle	NY State
Bear Mountain State Park	R-39	Cedar Pond Rd.	Seven Lakes Parkway	Stony Point
Bear Mountain State Park	PK-15	PIP	Route 210	Stony Point
Bear Mountain State Park	R-52	Route 9W	West Shore Rd.	Stony Point
Harriman State Park	R-80	Seven Lakes Drive	Long Mountain Circle	Woodbury (OC)
Harriman State Park	R-40	Route 210	Seven Lakes Parkway	Woodbury (OC)
Harriman State Park	PK-15	Route 210	PIP	Stony Point
Harriman State Park	R-56	Route 210	Cedar Flats Rd.	Stony Point
Harriman State Park	R-41	Seven Lakes Drive	Greenway Rd.	Ramapo

c. Prohibit Ingress into the 10-mile EPZ (Refer to Table D-3)

(NOT USED)

TABLE D-3
ACCESS CONTROL POINTS TO PROHIBIT 10-MILE EPZ INGRESS

ACP NO.	TRAFFIC PROHIBITED ON	INTERSECTING ROAD	TOWN
301	Entrance to Nyack Beach Park	N. Broadway	Palisades Park
302	9W Northbound	Herald Rd.	Clarkstown
303	Herald Rd./Storms Rd.	Mountainview Ave.	Clarkstown
304	Rte. 303 Northbound	Greenbush Rd.	Clarkstown
305	Germonds/Old Mill Rd.	Strawtown Rd.	Clarkstown
306	PIP Northbound	Exit 9	Clarkstown
307	Rte. 304 Northbound	Pineview Ave.	Clarkstown
308	Little Tor/W. Clarkstown Rd.	N. Middletown Rd.	Clarkstown
309	W. Burda Place	W. Clarkstown Rd.	Clarkstown
310	Great Oaks Drive	W. Clarkstown Rd.	Clarkstown
311	Geraldine Rd.	W. Clarkstown Rd.	Clarkstown
312	Amherst Rd.	W. Clarkstown Rd.	Clarkstown
313	Zabella Drive	W. Clarkstown Rd.	Clarkstown
314	W. Clarkstown Rd./E. Eckerson Rd.	W. Clarkstown Rd.	Clarkstown
315	Mallory Rd.	E. Eckerson Rd.	Ramapo
316	Inwood Lane	E. Eckerson Rd.	Ramapo
317	Headden Drive	E. Eckerson Rd.	Ramapo
318	Rockland Parkway	E. Eckerson Rd.	Ramapo
319	Eckerson Lane	E. Eckerson Rd.	Ramapo
320	Trinity Ave.	E. Eckerson Rd.	Ramapo
321	Buena Vista Rd.	E. Eckerson Rd.	Ramapo
322	Oak St.	E. Eckerson Rd.	Ramapo
323	State St.	E. Eckerson Rd.	Ramapo
324	Rte. 45/W. Main St.	Eckerson Rd.	Ramapo
325	Hempstead Rd.	W. Eckerson Rd.	Ramapo
326	Oak St.	W. Eckerson Rd.	Ramapo
327	Gilda Court	Union Rd.	Ramapo
328	Union Rd. Northbound	Viola Rd.	Ramapo
329	Brockton Rd.	Viola Rd.	Ramapo
330	South Gate Rd.	Viola Rd.	Ramapo
331	Marcia Lane	Viola Rd.	Ramapo
332	Rte. 306 N. Monsey-Ladentown Rd.	Grandview Avenue	Ramapo
333	Forshay Rd.	Grandview Avenue	Ramapo
334	Quincy Lane	Viola Rd.	Ramapo
335	Spook Rock Rd.	Grandview Avenue	Ramapo
336	Rte. 202 North	Grandview Ave.	Ramapo
337	Seven Lakes Rd./Johnsontown Rd.	NYS Thruway	Sloatsburg
338	Lake Welch Parkway/Old Cedar Pond Rd.	PIP Exit 16	Palisades Park
339	PIP South/9W-202 (by Orange Co. P.D.)	Bear Mountain Circle	Palisades Park

(NOT USED)

TABLE D-4

MINIMUM VERTICAL CLEARANCES-BRIDGES OVER
THE PALISADES INTERSTATE PARKWAY

Rockland

BIN	Feature Carried	Feature Crossed	Minimum Vertical Clearance Per Clearance Per DOT Database
1068530	Oak Tree Road	PIP	14' – 4"
1046180	Route 340	PIP (SB)	15' – 3"
1068990	Route 340	PIP (NB)	14' – 8"
1068560	Washington Street	PIP	13' - 11"
1068570	Kings Highway	PIP (SB)	14' - 2"
1068580	Kings Highway	PIP (NB)	14' - 7"
1045360	Route 303	PIP	14' - 0"
1068629	Orangeburg Road	PIP (SB)	14' - 10"
1068989	Orangeburg Road	PIP (NB)	15' - 3"
1068640	Van Wyck Road	PIP (SB)	14' - 2"
1068970	Van Wyck Road	PIP (NB)	14' - 0"
1068660	Sicklétown Road	PIP	14' - 3"
7701650	Abandoned RR	PIP	15' - 0"
1027709	Route 59	PIP (SB)	14' - 6"
1068969	Route 59	PIP (NB)	14' - 6"
1045410	Route 304	PIP	14' - 1"
1068700	Ludvigh Road	PIP	15' - 1"

BIN	Feature Carried	Feature Crossed	Minimum Vertical Clearance Per DOT Database
1068710	Middletown Road	PIP	13' - 9"
1068720	Clarkstown Road	PIP (SB)	13' - 10"
1068730	Clarkstown Road	PIP (NB)	12' - 8"
1025630	Route 45	PIP	13' - 6"
5091540	Lake Welch Pkwy.	Route 210/CR 106	12' - 8"
1068770	Lake Welch Pkwy.	PIP (SB)	12' - 7"
Orange			
1068780	Anthony Wayne Drive	PIP	15' - 9"
1003380	Route 6	PIP	13' - 5"
5003390	Swan Lakes Pkwy	PIP	12' - 6"

4. EVACUATION TRANSPORTATION RESOURCES

a. Transportation Resources

RESOURCE LIST PROVIDED IN DPT-2, ATTACHMENT 1

b. School Evacuation Transportation Resources

There are 128 public, private, parochial and nursery schools and day care centers potentially requiring transportation in the event a school evacuation is ordered.

There are approximately 33,059 students and 4859 teachers and staff at these schools. These 37,918 individuals would be evacuated to eight (8) School Reception Centers.

A formula is used to determine the most efficient number of buses and vans needed to evacuate each school facility, based on the following:

- Most recent school enrollment and staff
- Required seating, based on size of students and staff
- Average capacity of school buses (66 students or 44 adults)
- Average capacity of vans (20 students or 10 adults)
- Fixed capacity of coach (tour) buses (49 passengers)
- The arbitrary assignment of two (2) teachers or staff to each bus and one (1) to each van for supervision

By summing the requirements determined using this formula, a total of 695 buses and 208 vans would be needed to evacuate all schools simultaneously.

The resources available from the transportation providers listed in DPT-2, ATTACHMENT 1 are 470 buses and 270 vans.

DPT-2 and DPT-5 describe the process of dispatching buses and vans, initially, from their company lots and subsequently dispatching the necessary number of vehicles from a transportation staging area at Rockland Community College for a second trip to evacuate schools.

School Evacuation Resource Chart

	Buses	Vans
Total Vehicles Required:	695	208
Dispatched from Transportation Company Lots:	441	169
Dispatched from Transportation Staging Area:	254	39
Total Vehicles Utilized:	441	169

c. General Population Evacuation Transportation Resources

There are approximately 111,749 persons living within the 10 mile EPZ. There are approximately 4,629 persons who are transit dependent – do not have their own means of evacuation. A total of 37,699 school children, teachers and staff are accounted for under school evacuation plans, to be completed before a general population evacuation. Thus, the number of buses required to evacuate the general population is 93 (at the emergency bus capacity of 50 adults per bus).

General Population Evacuation Resource Chart

Buses Required	93
Total Resources Available:	
Buses	500
Bus equivalent (3 vans = 1 bus)	82
Totals	582
Excess for backup	489

In a scenario in which the evacuation of the general public was advisable before the completion of a school evacuation, the dispatch of buses to pick up transit dependent individuals would have to be delayed. Those individuals would be advised to take shelter until the time at which the buses would arrive.

d. Institutionalized Mobility Impaired

Appendix Q identifies 1058 mobility impaired individuals in special facilities in Rockland County. The transportation needs are as follows:

Ambulatory	306 patients requiring 7 Buses
Wheel Chair	802 patients requiring 75 Vans and 15 Ambulances*

* Buses and cars may also be utilized to evacuate wheelchair bound patients.

Transportation resources available to facilitate the evacuation of this population are as follows:

Bus and Van excess (see c. previous page)	23
Ambulances (from Procedure EMS-1)	66

e. Non-Institutionalized Mobility Impaired

Appendix Q identifies 60 non-institutionalized mobility impaired individuals within the EPZ who might require transportation assistance. Their transportation needs are as follows:

Individuals requiring wheel chair van	51	(6 vans)
Individuals requiring ambulance	9	(5 ambulances)

Transportation resources available to facilitate the evacuation of this population include:

Van and Bus (excess from d. above)	24
Ambulances (excess from d. above)	51

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX E
LOCATIONS OF EMERGENCY FACILITIES

1. ROCKLAND COUNTY EMERGENCY FACILITIES

a. Public Reception Centers

Nanuet Senior High School
103 Church St.
Nanuet, N.Y.

Pearl River High School
275 East Central Ave.
Pearl River, N.Y.

Chestnut Ridge Junior High School
892 South Main St.
Chestnut Ridge, N.Y.

Spring Valley Senior High School
Route 59
Spring Valley, NY

Suffern Senior High School
Viola Rd.
Suffern, N.Y.

Tappan Zee Senior High School
Dutch Hill Rd.
Orangeburg, N.Y.

Note: Upon order of the Emergency Coordinator, the facilities listed above will be activated as Public Reception Centers. Additional facilities may be ordered to standby to activate should it be necessary.

b. Congregate Care Centers

Bergen County Community College
400 Paramus Road
Paramus, N.J.

Ramapo College
500 Ramapo Valley Road (Route 202)
Mahwah, N.J.

Fairleigh Dickinson University
Hackensack Ave. and River Road
Teaneck, N.J.

c. School Reception Centers

Rockland Community College
145 College Road
Suffern, NY 10901

St. Thomas Aquinas College
125 Route 340
Sparkill, NY 10976

Dominican College
470 Western Highway
Orangeburg, NY 10962

South Orangetown Middle School
160 Van Wyck Road
Blauvelt, NY 10913

Bergen Catholic High School
1040 Oradell Avenue
Oradell, NJ 07649

School Reception Centers (con't)

St. Joseph's High School
40 Chestnut Ridge Rd.
Montvale, NJ 07645

Bergen County Vocational Technical High School –
Central Technical Education Center
285 Pascack Road
Paramus, NJ 07652

Bergen County Vocational Technical High School –
Paramus Special Needs
275 Pascack Road
Paramus, NJ 07652

Note: The list of schools in the 10-mile EPZ and their corresponding School Reception Centers is available on the back of the Public Information Brochure Map. An updated list of schools, principals and telephone numbers, buses required and Area location is maintained and on file at the BOCES office and at the EOC.

d. Emergency Worker Personnel Monitoring Center (PMC)
Rockland County Sewer District Plant
Route 340
Orangeburg, N.Y.

e. Rockland County Emergency Operations Center (EOC)
Fire Training Center
35 Fireman's Memorial Drive
Lower Level
Pomona, N.Y.

2. OTHER EMERGENCY FACILITIES

a. Indian Point Energy Center

Emergency Operations Facility (EOF)
Buchanan Service Center

Alternate Emergency Operations Center (AEOF)
Entergy Nuclear Northeast
440 Hamilton Ave.
l2th floor
White Plains, NY

b. Emergency Operations Centers (EOCs)

Westchester County Emergency Operations Center
County Office Building
Sub-Basement Area
148 Martine Avenue
White Plains, NY

Orange County Emergency Operations Center
255 Main Street
Goshen, NY

Putnam County Emergency Operations Center
County Office Building
40 Gleneida Ave.
Carmel, NY

New York State Emergency Operations Center
Assessment and Evaluation Room
State of New York
Division of Military and Naval Affairs
State Emergency Management Office
State Campus, Bldg. 22
1220 Washington Ave.
Albany, NY

c. New York State SEMO Region II Office
State of New York
Division of Military and Naval Affairs
State Emergency Management Office
Region II Office
Creek Road
Poughkeepsie, N.Y.

d. Joint News Center
Westchester County Airport
Bldg. 1
White Plains, N.Y.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX F
INDIAN POINT ENERGY CENTER
RADIOLOGICAL EMERGENCY COMMUNICATIONS

RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM (RECS)

The following details the functional operation of the Radiological Emergency Communications System (RECS), and the RECS Locations and Participants:

(1) Functional Operation

RECS is a telephone conferencing system between the Indian Point Energy Center (IPEC), New York State, the four Counties of Orange, Putnam, Rockland and Westchester, and other organizations including the West Point United States Military Academy and the City of Peekskill. Those in the Central Control Rooms at both IPEC Unit 2 (U2CCR) and Unit 3 (U3CCR) and those at the State and the Counties Warning Points are manned continuously for the initial call and message concerning an emergency at IPEC. As necessary, other stations including the IPEC Emergency Operations Facility and Alternate Emergency Operations Facility (EOF and AEOF) and the counties Emergency Operations Centers (EOC) and NY State Coordination Centers are subsequently manned for follow-up messages.

Each location has one or more telephones capable of hands-free operation, built-in speakerphone feature, and ring and light annunciators together with other common equipment necessary to couple the station to the system. With no calls, the speakerphones are normally silent (no ring) and the light is out. Entergy Northeast initiates all RECS calls. When a call is initiated by either U2CCR or U3CCR, a continuous ring and flashing light announce the call at the other stations until they go off-hook or press the hands-free (Speakerphone) button. The ringing will time out after 15 minutes. All calls are recorded on the system server at IPEC.

Initiate a Call – All Stations Will Ring

- Lift up handset or press SP (Speakerphone or hands-free) button & dial XXXX

  ⇒ Press Mute once for listen only.
  ⇒ Press Mute again to resume to talk.

Answer a Call

- Pick Up Handset or press SP (Speakerphone or hands-free) button.

  ⇒ Press Mute once for listen only.
  ⇒ Press Mute again to resume to talk.

Disconnect

- Hang up Handset or depress SP (Speakerphone for hands-free) button to release connection.

The call conferencing system operates as a primary route on a combination of private and commercial data networks and it operates as a secondary route on the commercial telephone systems. The Local Government (State frequency) radio may also be used as back up between the U2CCR, the U3CCR, the EOF, AEOF, the county WPs and EOCs, New York State Coordination Centers, and the City of Peekskill.

The IPEC exercises administrative control over the operation, testing, maintenance and repair of the system. RECS is tested monthly by the IPEC. Troubles with the System are reported to IPEC.

(2) RECS Locations and Participants

There are fifteen locations and twenty-two participants on the system. Some Participants have Party Line arrangements, i.e. more than one phone on the same line. See Attachment A for a list of RECS locations and participants.

EXECUTIVE HOTLINE EMERGENCY COMMUNICATIONS SYSTEM

The following details the functional operation of the Executive Hotline Emergency Communications System (EHL), and the EHL Locations and Participants:

(1) Functional Operation

EHL is a telephone conferencing system between the Indian Point Energy Center (IPEC), New York State, the four Counties of Orange, Putnam, Rockland and Westchester Emergency Operation Centers,

Each location has one or more telephones capable of hands-free operation, built-in speakerphone feature, and ring and light annunciators together with other

common equipment necessary to couple the station to the system. With no calls, the speakerphones are normally silent (no ring) and the light is out. All parties can initiate a conference call.

When a call is initiated a continuous ring and flashing light announce the call at the other stations until they go off-hook or press the hands-free (Speakerphone) button.
The ringing will time out after 15 minutes. All calls are recorded on the system server at IPEC.

Initiate a Call – All Stations Will Ring

- Lift up handset or press HF (hands-free) button & dial XXXX

  ⇒ Press Mute once for listen only.
  ⇒ Press Mute again to resume to talk.

Answer a Call

- Pick Up Handset or press HF (hands-free) button.

  ⇒ Press Mute once for listen only.
  ⇒ Press Mute again to resume to talk.

Disconnect

- Hang up Handset or depress HF (hands-free) button to release connection

The call conferencing system operates as a primary route on a combination of private and commercial data networks and it operates as a secondary route on the commercial telephone systems.

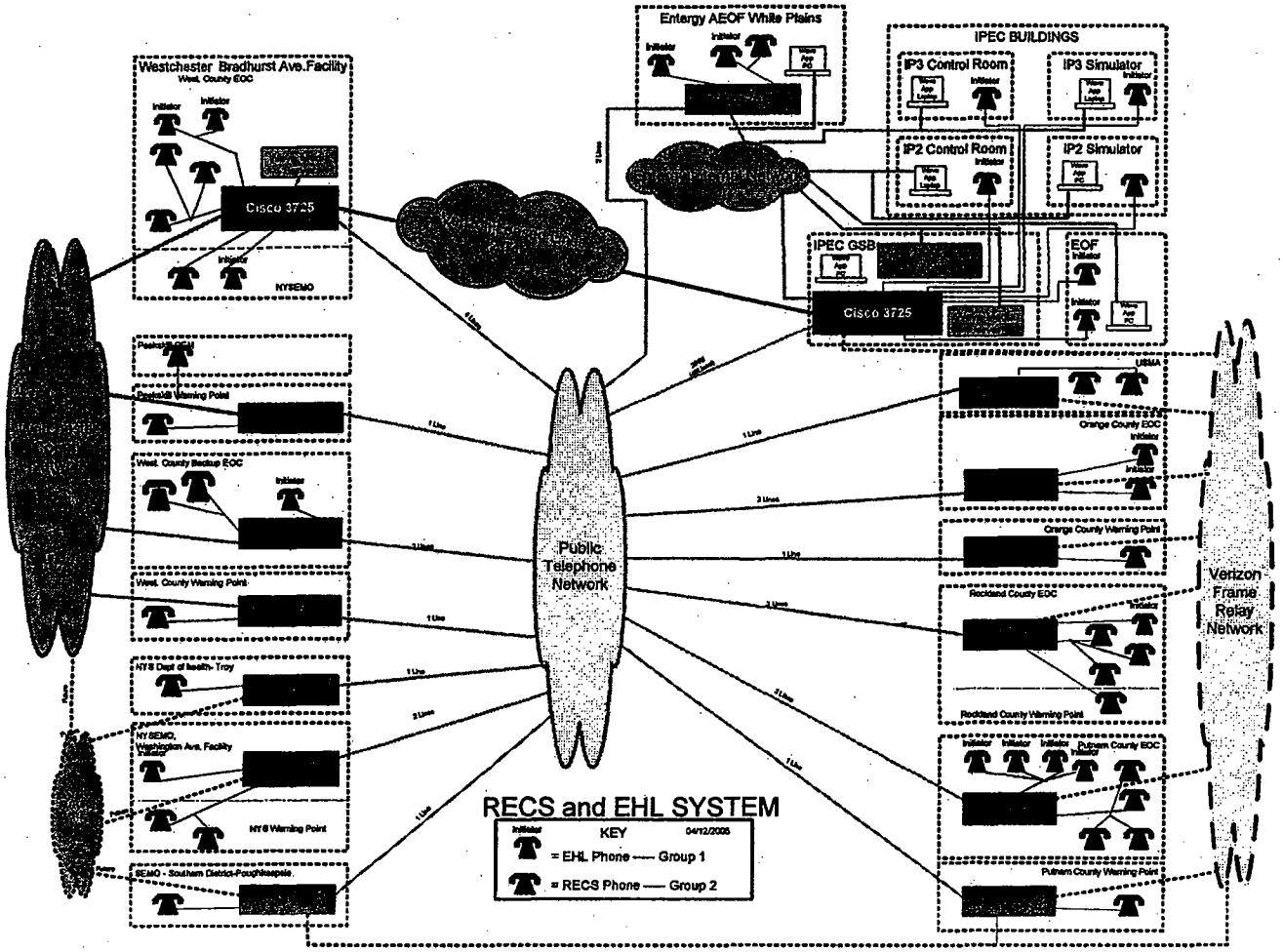
The IPEC exercises administrative control over the operation, testing, maintenance and repair of the system. EHL is tested monthly by the IPEC. Troubles with the System are reported to IPEC.

(2) EHL Locations and Participants

There are eight locations and nine participants on the system. Some Participants have Party Line arrangements, i.e. more than one phone on the same line. See Attachment B for a list of EHL locations and participants.

RECS & EHL SYSTEM CONFIGURATION

A set of common equipment, and associated telephone(s) and accessories are provided at each State and County locations (Remotes) and are interconnected by a Public and or Private Data path (Primary Route) and a Public Exchange Voice path (Alternative Route) to Indian Point Energy Center (IPEC) as the host. A backup host is provisioned- at Westchester County Emergency Operation Center at Hawthorne, New York- as an alternative to IPEC.



ATTACHMENT A- RECS LOCATIONS & PARTICIPANTS

Location 1. New York State Emergency Management Office

Participant 1 - 2 Phone Party Line- One in use.
New York State Warning Point (State WP)
State Emergency Management Office
State Campus, Building #22
1220 Washington Avenue
Albany, NY 12226

Location 2. New York State Department of Health

Participant 2 -1 Phone
New York State Department of Health (State DOH)
Bureau of Environmental Radiation Protection
547 River Street, Room 530
Troy, New York 12180

Location 3. New York State SEMO Region II Office

Participant 3 -1 Phone
New York State Emergency Management Office
Southern District - Region II Office
15 Creek Road
Poughkeepsie, NY 12601

Location 4. Rockland County Offices

Participant 4 - 3 Phone Party Line
Rockland County Emergency Operations Center (Rockland EOC)
Fire Training Center
35 Firemen's Memorial Drive
Pomona, NY 10970

Participant 5 - 1 Phone
Rockland County Warning Point (Rockland WP)
Sheriff's Communication Center
Fire Training Center
35 Firemen's Memorial Drive
Pomona, NY 10970

Location 5. Westchester County Office

Participant 6 - 2 Phone Party Line
Westchester County Back-up Emergency Operations Center
(Westchester Back-up EOC)
148 Martine Avenue
White Plains, NY 10601

Location 6. Westchester County Police Headquarters

Participant 7 - 1 Phone
Westchester County Warning Point (Westchester WP)
Hawthorne Circle
1 Saw Mill River Parkway
Hawthorne, NY 10532

Location 7. Hudson Valley Travel Center Offices

Participant 8 - 3 Phone Party Line
Westchester County Emergency Operations Center (Westchester EOC)
200 Bradhurst Avenue (Route 100)
Hawthorne, NY 10532

Participant 9 - 1 Phone
New York State Department of Transportations
New York State Westchester Coordination Center (NYSECC - Westchester)
200 Bradhurst Avenue (Route 100)
Hawthorne, NY 10532

Location 8. Orange County Office

Participant 10 - 1 Phone
Orange County Emergency Operations Center (Orange EOC)
255-275 Main Street
Goshen, New York 10924

Location 9. Orange County Sheriff's Office

Participant 11 - 1 Phone
Orange County Warning Point (Orange WP)
Orange County Sheriff's Office
County Jail Facility
40 Erie Street
Goshen, New York 10924

Location 10. Putnam County Office

Participant 12 - 4 Phone Party Line
Putnam County Emergency Operations Center (Putnam EOC)
112 Old Route 6
Carmel, NY 10512

Location 11. Putnam County Sheriff's Office

Participant 13 - 1 Phone
Putnam County Warning Point (Putnam WP)
Putnam County Sheriff's Office
County Correctional Facility
3 County Center
Carmel, NY 10512

Location 12. City of Peekskill Police Headquarters

Participant 14 - 1 Phone
Peekskill Warning Point
(Peekskill WP) (24 Hours)
Police Headquarters
1 Nelson Avenue
Peekskill, NY 10566

Participant 15 - 1 Phone
Peekskill Emergency Management Office
2 Nelson Avenue
Peekskill, NY 10566

Location 13. United States Military Academy

Participant 16 - 2 Phone Party Line
US Military Academy
USMA Military Police Building
Buildings 616 & Building 621
Provost Marshall Operations Branch
Operations Desk
West Point, NY 10996

Location 14. Entergy Northeast Headquarter

Participant 17 - 2 Phone Party Line
Alternate Emergency Operation Facility (AEOF)
440 Hamilton Ave.,
White Plains, NY 10601

Location 15. Entergy Northeast, Indian Point Nuclear Facility

Participant 18 - 3 Turret Position Party Line
Unit 2 Control Room (CR-2)
Indian Point No. 2 Nuclear Power Plant
Entergy Nuclear Northeast
Buchanan, NY 10511

Participant 19 – 3 Turret Position Party Line
Unit 3 Control Room (CR-3)
Indian Point No. 3 Nuclear Plant
Entergy Nuclear Northeast
Buchanan, NY 10511

Participant 20 – 5 Turret Position Party Line
Emergency Operations Facility (EOF)
Entergy Nuclear Northeast
Buchanan, NY 10511

Participant 21 – 3 Turret Position Party Line
Unit 2 Simulator
Entergy Nuclear Northeast
Buchanan Service Center
Entergy Nuclear Northeast

Participant 22 – 3 Turret Position Party Line
Unit 3 Simulator
Entergy Nuclear Northeast
Buchanan Service Center
Entergy Nuclear Northeast

ATTACHMENT B- EHL LOCATIONS & PARTICIPANTS

Location 1. New York State Emergency Management Office

Participant 1 - 1 Phone
State Emergency Management Office
State Campus, Building #22
1220 Washington Avenue
Albany, NY 12226

Location 2. Rockland County Offices

Participant 2 - 1 Phone
Rockland County Emergency Operations Center (Rockland EOC)
Fire Training Center
35 Firemen's Memorial Drive
Pomona, NY 10970

Location 3. Westchester County Office

Participant 3 - 1 Phone
Westchester County Back-up Emergency Operations Center
(Westchester Back-up EOC)
148 Martine Avenue
White Plains, NY 10601

Location 4. Hudson Valley Travel Center Offices

Participant 4 - 2 Phone Party Line
Westchester County Emergency Operations Center (Westchester EOC)
200 Bradhurst Avenue (Route 100)
Hawthorne, NY 10532

Participant 5 - 1 Phone
New York State Department of Transportations
New York State Westchester Coordination Center (NYSECC - Westchester)
200 Bradhurst Avenue (Route 100)
Hawthorne, NY 10532

Location 5. Orange County Office

Participant 6 - 1 Phone
Orange County Emergency Operations Center (Orange EOC)
255-275 Main Street
Goshen, New York 10924

Location 6. Putnam County Office

Participant 7 - 4 Phone Party Line
Putnam County Emergency Operations Center (Putnam EOC)
112 Old Route 6
Carmel, NY 10512

Location 7. Entergy Northeast Headquarter

Participant 8 - 1 Phone
Alternate Emergency Operation Facility (AEOF)
440 Hamilton Ave.,
White Plains, NY 10601

Location 8. Entergy Northeast, Indian Point Nuclear Facility

Participant 9 – 1 Phone
Emergency Operations Facility (EOF)
Entergy Nuclear Northeast
Buchanan, NY 10511

ROCKLAND COUNTY

RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX G
TYPICAL RADIOLOGICAL EMERGENCY EQUIPMENT LISTS

1. TYPICAL FIELD MONITORING KIT (quantity: 4)

1. Field Monitoring Procedures Folder containing:
   a. 1 Monitoring Kit Checklist and Description of Equipment
   b. 1 Field Monitoring Procedure
   c. 1 Field Survey and Air Sampling Techniques
   d. 2 Pencils
   e. 1 Rockland County Map and 10-mile Wind Sector Map
   f. 1 List of Utility Sampling Sites
   g. 1 List of Rockland County Field Monitoring Sites
   h. 1 List of Telephone Numbers
   i. 1 Statement for Public and Police
   j. 1 Radio Use Instructions
   k. 10 Offsite Survey Team Data Forms
   l. 10 Activity Logs
2. 50 Fiberglass (particulate) Filters
3. 10 Envelopes
4. 10 Charcoal Filters
5. 10 Plastic Bags
6. 1 Suture Removal Kit (for tweezers)
7. 12 Self-Adhesive Labels
8. 6 Pair Disposable Gloves
9. 3 Large Plastic Bags
10. 3 Respirators and 6 Cartridges
11. 1 Roll of Tape
12. 2 Fuses
13. 1 Screwdriver
14. 1 Lantern with Battery
15. 1 Stopwatch
16. 1 Cs-137 Check Source
17. 5 Silver Zeolite (Ag-Z) Iodine Cartridges
18. 1 HP-210 Detector and Cable
19. 1 RADECO Air Sampler
20. 1 RO-2A Meter

APPENDIX G

The following are not in the field monitoring kits, but are issued to field team members separately:

21. Self-reading dosimeters or electronic dosimeters (1 per individual)
22. TLDs (1 per individual)
23. Dosimeter Charger (1 per field team)
24. 1 Ludlum 2401P Pancake GM Survey Meter
25. Extra "D" Batteries
26. Extra 9-Volt Batteries
27. KI Tablets (1 packet per field team)
28. Radiation Exposure Record Cards
29. Protective Clothing

2. TYPICAL PERSONNEL MONITORING CENTER KIT (quantity: 7)

1. Appropriate Procedures
2. Rolls of Barrier Tape
3. Rolls of Masking Tape
4. Barrier Rope
5. Radiological Warning Signs
6. Mild Hand Soap
7. Abrasive Soap
8. Detergent
9. Soft Bristle Scrub Brushes
10. Waterless Hand Cleaner
11. Hand Cream
12. Self-reading dosimeters or electronic dosimeters (15)
13. TLDs (15)
14. Dosimeter Chargers
15. Anti-Contamination Clothing
16. Scissors
17. Cotton Swabs
18. Coveralls
19. Cloth Towels
20. Paper Towels
21. Waste Barrels/Contamination Canister
22. Plastic Trash Bags
23. Small Plastic Bags
24. Magic Markers
25. Step-off Pads
26. Traffic Cones
27. Ludlum 2401P Pancake GM Survey Meter (6) with Plastic Bags
28. Extra 9-Volt Batteries
29. Evacuee/Emergency Worker Exposure Record Forms
30. Clean Evacuee/Emergency Worker Monitoring Record Forms
31. Assorted Signs and Tags
32. PMC Team Leaders and Monitors Phone List
33. Radiation Exposure Record Cards
34. Portal Monitors
35. Potassium Iodide tablets and fact sheets
36. Water jug and cups

3. TYPICAL EOC STATION KIT (quantity: 25)

1. Appropriate Procedures, Forms, Reference Materials
2. EOC Floor Plans
3. Writing Pads
4. Pens
5. Pencils
6. Paper Clips
7. 12 inch Ruler
8. "Post It" Pads
9. In/Out Basket
10. Internal Message Forms
11. Rockland County Phone Book
12. Agency Name Plate
13. Name Tags
14. Appropriate Phone Lists

4. TYPICAL BUS COMPANY KIT (quantity: 10)

1. Self-reading dosimeters or electronic dosimeters (50)
2. TLDs (50)
3. Dosimeter Charger
4. "D" Batteries
5. KI Packets(50)
6. Radiation Exposure Record Cards
7. Appropriate Procedures
8. Bus Driver Packets (Maps)

5. TYPICAL BUS DRIVER KIT

1. Self-reading dosimeters or electronic dosimeters (1)
2. TLD (1)
3. KI Packet (1)
4. Radiation Exposure Record Card (1)
5. Appropriate Procedures or Instructions (1)
6. Appropriate Bus Driver Packet (Maps) (1)

6. TYPICAL AMBULANCE KIT (quantity: 21)

1. Ludlum 2401P Pancake GM Survey Meter
2. 9-Volt Batteries
3. Dosimeter Charger
4. "D" Batteries
5. Self-reading dosimeters or electronic dosimeters (2)
6. TLDs (2)
7. KI Packet
8. Protective Clothing
9. Radiation Exposure Record Cards
10. Appropriate Procedures or Instructions
11. Plastic Trash Bags w/Ties

7. TYPICAL FIRE COORDINATOR (quantity: 8)

1. Dosimeter Charger (1)
2. "D" Batteries
3. Self-reading dosimeters or electronic dosimeters (25)
4. TLDs (25)
5. KI Packet (25)
6. Radiation Exposure Record Cards

8. TYPICAL POLICE DEPARTMENT KIT (quantity: 14)

1. Self-reading dosimeters or electronic dosimeters (10)
2. TLDs (10)
3. Dosimeter Chargers
4. "D" Batteries
5. KI Packet (10)
6. Radiation Exposure Record Cards
7. Appropriate Procedures
8. Siren Failure-Route Alerting Manual w/message (10)

9. TYPICAL HIGHWAY DEPARTMENT KIT (quantity: 2)

1. Self-reading dosimeters or electronic dosimeters (10)
2. TLDs (10)
3. Dosimeter Chargers
4. "D" Batteries
5. KI Packet (10)
6. Radiation Exposure Record Cards
7. Appropriate Procedures

10. TYPICAL RACES KIT (quantity: 1)

1. Self-reading dosimeters or electronic dosimeters (10)
2. TLDs (10)
3. Dosimeter Chargers
4. "D" Batteries
5. KI Packet (10)
6. Radiation Exposure Record Cards
7. Appropriate Procedures

11. EOC KI INVENTORY

1. 1200 Packets

12. EOC TLD INVENTORY

1. 100 TLDs for EOC Personnel

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX H
DISTRIBUTION AND USE OF POTASSIUM IODIDE (KI)

I. ROCKLAND COUNTY POLICY ON DISTRIBUTION AND USE OF POTASSIUM IODIDE (KI)

Potassium Iodide (KI) in water soluble tablet form (130 mg and 65 mg) and in liquid form (65 mg/ml) is recommended as an appropriate thyroid blocking agent for use by members of the general public and emergency workers. NYS policy also recommends the use of KI for hospital patients and staff, nursing home patients and staff, and incarcerated or special populations in the EPZ where evacuation is not possible or feasible.

When individuals are likely to receive a projected committed dose equivalent to the thyroid of 5 Rem or greater, i.e., General Emergency (GE), KI should be considered as a protective measure prior to receiving such a dose.

The State Commissioner of Health is responsible for recommending the use of KI. When time permits, the State Commissioner will consult with appropriate local health officials prior to making this recommendation. The County Commissioner of Health is responsible for ordering the administration of Potassium Iodide for Rockland County residents.

Potassium Iodide is stored at the Emergency Operations Center and distributed to emergency workers and others, as appropriate in accordance with procedure DOH-12, Potassium Iodide (KI) Distribution.

New York State
Nuclear Emergency Preparedness Subcommittee
Technical Issues Task Force

Implementation of the Use of Potassium Iodide (KI) as a Protective Action for the Public

Revision 2
June 2007

The following individuals and organizations participated in the development of this position paper, and agree to its purpose and contents. All participants agree to implement the guidance contained herein, to the extent possible.

Constellation Energy Group (Nine Mile Point)

James D. Jones _____ _____ _____
Name Signature Date

Entergy Nuclear Northeast (J.A. FitzPatrick and Indian Point Energy Center)

Michael Slobodien _____ _____ _____
Name Signature Date

Constellation Energy Group (R.E. Ginna Station)

Sherri Kennedy _____ _____ _____
Name Signature Date

New York State Emergency Management Office

Andrew Feeney _____ _____ _____
Name Signature Date

New York State Health Department

Adela Salame-Alfie, Ph.D. _____ _____
Name Signature Date

Executive Summary

Licensee and State members of the Potassium Iodide (KI) Task Force (KI Task Force) developed this position paper to detail the decision process by which several recommendations regarding KI distribution will be made. The Task Force agreed that upon declaration of a General Emergency by the licensee, a recommendation to evacuate and take KI would be made simultaneously. It was also agreed that a single trigger level would be used (projected dose of 5 rem to the child thyroid). This paper discusses several approaches to determine doses/iodine concentrations and whether one approach was selected over the others due to effectiveness, timeliness, ease of implementation, etc.

The following six specific recommendations were agreed upon by the KI Task Force:

1. ***"Upon declaration of a General Emergency, the following will be directed to ingest KI:***

   - ***members of the public that are directed to evacuate***
   - ***captive populations within the evacuated area***
   - ***members of the public that would otherwise have been evacuated but are directed to shelter-in-place because evacuation is not feasible."***

2. ***"If evacuation is recommended at an ECL other than a General Emergency, or for any other reason, a direction to ingest KI as described in recommendation No. 1 will not be made. Ingestion of KI will be recommended only upon declaration of a General Emergency."***

3. ***"Upon declaration of a General Emergency, members of the public that are directed to shelter-in-place in order to reduce dose shall be directed to ingest KI. Members of the public who are directed to monitor the Emergency Alert System will not be directed to ingest KI."***

4. ***"Upon declaration of a General Emergency, all emergency workers located within the 10-mile EPZ will be directed to take KI (one 130-mg tablet every 24 hours). This recommendation will be made at the same time as the recommendation to ingest KI is made to the general public."***

5. ***"Members of the public and captive populations who are directed to take KI shall be directed to ingest KI in the dosage recommended by the US FDA. If a scheme of graded dosing is not possible, one 130-mg tablet per person may be ingested with minimal risk for those over one year of age. Dose to neonates should be limited to 16 mg, if possible."***

3. ***"As part of a pre-distribution effort, each member of the public should be offered a quantity of KI tablets equivalent to the following:***

Maximum ETE (in days-rounded up) x 1 age and/or weight dependent dose/day

Alternatively, one bottle of liquid KI may be offered per family."

The group recognizes that a strong public information campaign and clear messages during the emergency are key to a successful KI implementation program. Some implementation guidance is provided at the end of the document.

1. Purpose

The purpose of this paper is to document a technical assessment of issues associated with the distribution of Potassium Iodide (KI) to the general public, emergency workers and captive populations, and to provide implementation guidance for:

- Usage
  - General Public
  - Emergency Workers
  - Captive Populations
- Dosage and frequency
- Pre-distribution criteria

2. Regulatory Requirements and Guidance

2.1 Applicable regulations

The US Nuclear Regulatory Commission (NRC) amended emergency planning regulations to require that States consider including the prophylactic use of KI as a protective measure for the general public in the plume exposure pathway Emergency Planning Zone (EPZ) in 66 FR 5427 on 19 Jan 2001. (Ref. 1)

The Federal Emergency Management Agency (FEMA) provided notice that the Federal Radiological Preparedness Coordinating Committee (FRPCC) revised its 1985 Federal policy regarding KI use in 67 FR 1355 on 10 Jan 2002. (Ref. 2)

2.2 Current guidance

The US Food and Drug Administration (FDA) issued guidance on the use of KI in radiation emergencies in December 2001 (Ref. 3). This document concludes "Short-term administration of KI at thyroid blocking doses is safe..." (Ref. 3 IV.A.) and indicates KI dosage is dependent on age and "Predicted Thyroid Exposure" (Ref. 3 IV.B.). This document states that "The recommendation should be interpreted with flexibility as

necessary to allow optimally effective and safe dosing..." Additionally, "...the overall benefits of KI far exceed the risks of overdosing..." (Ref. 3 IV.B.).

2.3 New York State Position

In 2002, New York State, in its consideration of the subject CFR, chose to incorporate KI as an adjunct to the current range of protective actions for the public. The New York State Revised KI Policy was issued in April 2002.

2.4 Upcoming Guidance

This Position Paper will be revised as necessary to accommodate any new Federal guidance and availability of KI in different dosages.

3. Assumptions

- For optimal protection against inhaled radioiodine, KI should be administered before or immediately coincident with passage of the radioactive cloud. Effectiveness drops off rather quickly as time since radioiodine exposure increases. The effectiveness drops to about 50% if KI is taken two hours after exposure, and continues to decrease as time after exposure increases. (Ref. 3. V.).

- The recommended daily dose protects the user from radioiodine uptake for approximately 24 hours.

- KI should be taken until the person is no longer exposed to radioiodine.

- Radioiodine would only be present in the environment in sufficient quantities to exceed 5 rem child thyroid dose (CDE_T), which is the minimum dose at which KI is recommended, if a General Emergency (GE) had been declared at the facility from which the source term originates. This assumption is based on the fact that radioiodine can only be present in quantities capable of producing 5 rem child CDE_T in the presence of significant core damage and loss of primary containment, which are criteria that constitute a General Emergency.

- There will only be one trigger level to recommend KI: 5 rem to the child thyroid (CDE_T). This trigger level applies to the general public, emergency workers and captive populations.

4. Implementation Analysis

This section presents six recommendations as well as the rationale, benefits and risks associated with each. Recommendations are presented for when to issue a KI recommendation, dosage, and criteria for pre-distribution. These analyses apply to members of the public, emergency workers and captive populations.

4.1 Task Force Recommendation # 1

"Upon declaration of a General Emergency, the following will be directed to ingest KI:

- ***members of the public that are directed to evacuate***
- ***captive populations within the evacuated area***
- ***members of the public that would otherwise have been evacuated but are directed to shelter-in-place because evacuation is not feasible."***

Analysis:

Three methods were investigated to arrive to this recommendation:

- Use of a dose value,
- Use of deterministic methods, and
- Use of emergency classification.

Each analysis is described separately.

4.1.1 Using Dose Value

This analysis examines a method that utilizes projected dose to the thyroid as an indication of recommendation of KI use by the public [specifically, Committed Dose Equivalent to the child thyroid (CDE_T)]. In accordance with FDA Guidance (Ref. 3), child $CDE_T \geq 5$ rem is the indication at which KI use should be recommended.

To date, none of the New York State nuclear power facilities utilize real-time iodine monitoring. Hence, releases of radioiodine to the environment during an emergency are inferred from either grab samples or back calculated from field data. Both of these methods require several steps that need, at a minimum:

- Allocation and briefing of personnel,
- Assembling equipment and procedures to enter the field to collect and analyze samples,
- Reporting the results to an emergency facility,
- Performing calculations to determine child CDE_T,
- Relaying dose assessment information to the state/county,
- Decision-making by the state/county, and

- Dissemination of recommendations to the public.

These steps are routinely performed during emergency drills, and our experience indicates that it may take anywhere from 30-90 minutes to calculate the child CDE_T once a decision has been made to obtain a sample. Additionally, the emergency facilities that implement this analysis may take up to 60 minutes to activate after declaration of an emergency.

Normally, the calculation of the child CDE_T takes place after the completion of protective action recommendations (PARs) based on "plant conditions". The PARs for a General Emergency are to evacuate people within two-miles around and five miles downwind of the site, and advise all remaining Areas to monitor the Emergency Alert System.

Given the above:

- Child CDE_T would likely be calculated and provided to the County and the State within 105-165 minutes after the declaration of the GE.

- If the County decides that the use of KI is appropriate, given the time the county takes to make the decision and prepare public information messages, this instruction could be provided to the public in 150-210 minutes after the declaration of the GE.

4.1.2 Use of Deterministic Methods

In this case, methods that determine child CDE_T utilizing parameters such as containment high range monitor status, gross core damage estimate, and/or reactor pressure vessel and containment integrity were considered. Unfortunately, the data needed to make even rough estimations of these parameters would typically be assessed after the GE-related recommendations. Hence, the time-delay risks of such a method still apply.

Benefits of these methods

Administration of KI would occur only in the presence of radioiodine in quantities that meet or exceed the "Predicted thyroid exposure guidance" in Reference 3.

Risks of these methods

- Administration of KI would occur (up to 3-4 hours) after the release of radioiodine, decreasing the effectiveness of the prophylaxis by more than 75%.

- Administration of KI would likely occur after other protective actions (that is evacuation) have already been recommended to the public. It is unknown if the public would comply with instructions to bring KI with them.

- Members of the public may delay evacuation in order to locate their KI.

- If two separate protective actions are issued to the public (for example, an order to evacuate not accompanied by a recommendation to take KI), compliance with the respective recommendations is unknown. It is possible that the public will not differentiate between the protective actions and, when told to evacuate, may take KI as well. The risk is that the public sees these as two separate protective actions, potentially providing confusion and non-compliance.

4.1.3 Use of Emergency Classification

This analysis examines a method that would use the emergency classification level as the indication for KI use. Specifically, the indication for KI use is a declaration of a General Emergency.

- The General Emergency classification is currently used to determine evacuation PARs.
- If KI use was always implemented concurrently with the "plant condition" protective action recommendations, the public would receive the recommendation to take KI at the same time they received the order to evacuate; that is, within an hour of the declaration of the General Emergency.
- By definition, the declaration of a General Emergency presumes that "Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area." (Ref. 7).
- The EPA Protective Action Guideline (PAG) is to evacuate populations whose actual or projected exposure level equals or exceeds 5 rem Committed Dose Equivalent to the (adult) thyroid (Ref. 8).
- New York State nuclear power plant licensees calculate CDE_T to the child thyroid, and provide this number to the counties and state for comparison against the PAG's (Ref. 9).
- Hence, when the licensee recommends evacuation due to a General Emergency declaration, a child $CDE_T \geq 5$ rem either exists or is anticipated to exist at the site boundary or beyond. Though there are exceptions to this (such as GE's declared due to security issues or electrical problems) all GE's have the potential to exceed the 5 rem child CDE_T level. Calculations performed by New York State on a variety of plant conditions postulated to exist during a GE provide confirmation of this (Ref. 6).
- Given the above, it can be reasonably assumed that the radiological conditions present within the context of a General Emergency will result in meeting or exceeding the child $CDE_T \geq 5$ rem, which is also the thyroid exposure at which the FDA recommends the use of prophylactic KI.

Benefits of this method

- The recommendation to take KI could be issued earlier than the other indication methods, concurrently with the recommendation to evacuate or shelter-in-place. This would likely occur prior to the presence of radioiodine in the environment, thus providing maximum loading dose of stable iodine to the thyroid.

- Compliance with taking KI is more likely since all protective actions are being implemented at once. Also, people would be more likely to have access to pre-distributed KI.

Risks to this method

- KI could be ingested without significant radioiodine ever being present in the environment. For example, the accident may not result in a release of radioiodine to the environment. Hence the public incurs the risk of taking KI without benefit.

Risk Analysis

- The risk of taking KI is minor (Ref. 10).
- A GE condition carries a risk of radioiodine release to the public.
- KI should be taken as soon as possible once the risk of radioiodine exposure is present.
- Using projected child CDE_T as the basis for a recommendation to take KI could significantly delay KI administration.
- Providing the public with a recommendation to take KI concurrent with an order for evacuation or sheltering-in-place provides the earliest and most effective thyroid protection with the greatest likelihood of compliance.

4.4 Task Force Recommendation # 2

"If evacuation is recommended at an ECL other than a General Emergency, or for any other reason, a direction to ingest KI as described in recommendation No. 1 will not be made. Ingestion of KI will be recommended only upon declaration of a General Emergency."

Analysis

- The recommendation to take KI should be given to any persons likely to be exposed to radioiodine in quantities that may exceed the "Predicted thyroid exposure guidance" presented in Reference 3.

- This analysis suggests that persons who are ordered to evacuate due to plant conditions or due to subsequently determined projected dose may exceed the predicted thyroid dose, and should take KI.

For the population that has been told to evacuate for any reason other than the declaration of a General Emergency the risk of radioiodine exposure is low.

- Populations who took, or were recommended to take KI coincident with the recommendation to evacuate at an emergency classification level (ECL) other than a General Emergency, or for any other reason, are at risk of depleting their pre-distributed KI supply, making it unavailable in the event of radioiodine exposure.

4.5 Task Force Recommendation #3

"Upon declaration of a General Emergency, members of the public that are directed to shelter-in-place in order to reduce dose shall be directed to ingest KI. Members of the public who are directed to monitor the Emergency Alert System will not be directed to ingest KI."

Analysis

- Upon declaration of a General Emergency, the licensee will automatically recommend evacuation for the area two miles around and five miles downwind from the plant.

- In cases where a General Emergency is the first ECL declared ("fast-breaker"), resources and facilities would not be in place to allow for orderly evacuation. It is therefore likely that the population will not be directed to evacuate, but will be directed to shelter-in-place (in order to reduce dose).

- If it has been determined that an impediment to evacuation exits (i.e., lack of transportation resources, inclement weather, or road impediment) then the county or state may decide to shelter-in-place for the purpose of reducing dose rather than evacuate.

- Given the analysis in section 4.1.3, it can be reasonably assumed that the radiological conditions present within the context of a General Emergency will result in meeting or exceeding the child $CDE_T \geq 5$ rem, which is also the thyroid exposure at which the FDA recommends the use of prophylactic KI.

- For the population that has not been evacuated and has been told to monitor the Emergency Alert System in order to maintain a heightened state of awareness, the risk of radioiodine exposure is low. The reasons for this are:

  - Due to the distance from the reactor, this population is at significantly less risk from radiation exposure from all sources, versus persons closer to the reactor.

  - Monitoring the Emergency Alert System in order to maintain a heightened state of awareness is used for projected doses of < 1 rem TEDE or < 5 rem CDE_T. Hence this population is not at risk of significant exposures to radioiodine.

- Populations that have not been evacuated, who took, or were recommended to take KI coincident with the direction to monitor the Emergency Alert System are at risk of depleting their pre-distributed KI supply, making it unavailable in the event of radioiodine exposure.

4.6 Task Force Recommendation # 4

"Upon declaration of a General Emergency, all emergency workers located within the 10-mile EPZ will be directed to take KI (one 130 mg tablet every 24 hours). This recommendation will be made at the same time as the recommendation to ingest KI is made to the general public."

Analysis

- Though current trigger levels for emergency worker KI use vary within New York State, all methods use trigger levels greater than the 5 rem child CDE_T that is associated with the general public.

- The KI Task Force has agreed that there will be one trigger level to recommend KI, and that trigger level will be 5 rem child CDE_T.

- Most emergency workers are members of the public, and many will encounter the evacuating public, who will have been told to take their KI. Additionally, emergency workers have access to the same public information that would be instructing the public to take KI. These emergency workers:

  - May not differentiate themselves from the public in the presence of instructions regarding KI.

  - May not comply with directions that differ from those being broadcast to the public.

- Since emergency workers are likely to move about between evacuated and non-evacuated areas within the EPZ, all emergency workers within the EPZ will be directed to take KI. This includes licensee emergency workers as well as county, state, and local emergency workers.

- Using the same arguments as in section 4.1, if current methods are continued, emergency workers would receive a recommendation to take KI while in the field. This method:

  - Is likely to result in a recommendation to take KI after exposure to radioiodine has already occurred.

  - Has potential delays due to the communications lag present when contacting several hundred emergency workers in the field.

Directing emergency workers to take KI in the absence of radioiodine has the same risks and benefits detailed in section 4.1.

4.7 Task Force Recommendation # 5

"Members of the public and captive populations who are directed to take KI shall be directed to ingest KI in the dosage recommended by the US FDA. If a scheme of graded dosing is not possible, one 130-mg tablet per person may be ingested with minimal risk for those over one year of age. Dose to neonates should be limited to 16 mg, if possible."

Analysis

The FDA guidance (Ref. 3) contains a number of age dependent doses. These recommendations are the lowest effective dose. Emergency planners and others should understand that absolute precision in dosing is generally not critical to safety or efficacy. Higher doses (e.g., up to 130 mg) would be equally effective and, particularly among school-age children, extremely safe (Ref. 10).

In addition to 130 mg tablets, KI is now FDA-approved and available in 65 mg tablets and liquid (65 mg/ml).

Threshold Thyroid Radioactive Exposures and Recommended Doses of KI for Different Risk Groups

	KI dose (mg)	# ml liquid (65 mg/ml)	# of 65 mg tablets	# of 130 mg tablets
Adults over 40 yrs	130	2	2	1
Adults over 18 through 40 yrs				
Pregnant or lactating women				
Adolescents over 12 through 18 yrs who weigh at least 150 pounds	130	2	2	1
Adolescents over 12 through 18 yrs who weigh less than 150 pounds	65	1	1	1/2
Children over 3 through 12 yrs	65	1	1	1/2
Over 1 month through 3 years	32	1/2	1/2	1/4
Birth through 1 month	16	1/4	1/4	1/8

A scheme of graded dosing may be difficult to implement during a radiological emergency involving large numbers of people. If local emergency planners conclude that graded dosing is logistically impractical, for populations at risk for radioiodine exposure, the overall benefits of taking up to 130 mg of KI instead of the lower doses recommended for certain age groups far exceed the small risks of overdosing. However, where feasible, adherence to FDA guidance

should be attempted when dosing infants. Ideally, neonates should receive the lowest dose (16 mg) of KI. Excess iodine intake can lead to transient iodine-induced hypothyroidism in neonates, which can impact intellectual development. Individuals who are intolerant of KI at protective doses, as well as neonates, pregnant, and lactating women, should be given priority with regard to other protective measures (i.e., sheltering-in-place, evacuation, and control of the food supply) (Ref. 10).

This analysis recognizes:

- Potential confusion relating these doses to the public.
- Practical issues associated with delivering doses based on fractions of a tablet. This would require sectioning KI tablets in order to achieve a desired delivered dose.
- Likely lack of compliance regarding dose given the above issues.

Benefits to this method

- Instructions to follow the FDA recommendations if possible, but allowing up to 130 mg for persons over one year of age, and limiting neonates to 16 mg are easily related in public information material.
- Simple instructions are more likely to be complied with.

Risks to this method

This recommendation may provide a dose to children significantly in excess of the FDA requirements. In light of potential developmental consequences of even transient hypothyroidism, neonates who receive KI should be medically monitored and thyroid hormone therapy given in cases where hypothyroidism develops. This action should be incorporated into the State and county plans.

Risk Analysis

- The risk associated with excessive KI is less than the risk of exposure to radioiodine (Ref. 3).
- The public is more likely to comply with simple dose instructions.
- The FDA has indicated that the use of a single 130-mg dose for all members of the public is safe, regardless of age (Ref. 10).

1.8 Task Force Recommendation # 6

"As part of a pre-distribution effort, each member of the public should be offered a quantity of KI tablets equivalent to the following:

Maximum ETE (in days-rounded up) x 1 age and/or weight dependent dose/day.

Alternatively, one bottle of liquid KI may be offered per family."

Analysis

- The public should be provided with sufficient KI to assure that thyroid prophylaxis is available to accommodate an expected duration of exposure to radioiodine.
- Given that evacuation of the public is the preferred method of preventing exposure, in an incident that could result in the release of radioiodine, the public could be expected to be exposed for a period of time equal to the greatest Evacuation Time Estimate (ETE) for the facility in question.
- One dose of KI protects the thyroid for approximately 24 hours (one day).

It is possible that impediments to evacuation may prevent the egress of portions of the population that would otherwise be evacuated (examples are road impediments such as heavy snowfall or transportation resource shortfalls), however, those conditions are accommodated in each nuclear facility's ETE.

- Given the above, pre-distribution efforts should provide sufficient KI in accordance with the following:

Maximum ETE (in days-rounded up) x 1 age and/or weight dependent dose/day
= *# KI tablet(s) per person that should be pre-distributed*

Example: At Nine Mile Point, the maximum amount of time it would take to evacuate any member of the public is 8 hours, 20 minutes, as indicated in that facility's ETE (Ref. 4). Rounded up, that is equivalent to 1 day. Plugging this into the above formula:

1 day x 1 age and/or weight dependent dose/day
= 1 age and/or weight dependent dose

In this example, one tablet of the appropriate dosage should be offered per person in a pre-distribution method. If 65 mg tablets are not available, 130 mg tablets may be offered. Alternatively, one bottle of liquid KI per family may be offered.

5. Implementation Considerations

This section provides suggestions for implementing the recommendations contained above.

5.1 Licensee actions

The Part 1 Notification Fact Sheet item 7.B. should be modified to read, "Evacuate and implement the KI plan for the following Areas". This action was completed 5 May 2003.

5.2 County and State actions

- Emergency plans should be modified to include:
  - The addition of KI as a protective action for the public.
  - The above protective action may be implemented for the evacuating public and those directed to shelter-in-place upon declaration of a General Emergency.
  - The recommended dose will be in accordance with FDA guidance. If a scheme of graded dosing is not possible, one 130-mg tablet per person may be ingested with minimal risk for those over one year of age. Dose to neonates should be limited to 16 mg, if possible.
  - Dose should be repeated every 24 hours while the person is exposed to radioiodine.
  - All emergency workers located within the 10-mile EPZ will be instructed to take KI upon declaration of a General Emergency (that is, concurrent with the recommendation to the evacuating population).
  - KI distribution policies and procedures, both pre- and post-event.
- Public information plans should be modified to include:
  - KI purpose, dose, distribution methods (pre- and post-event) and precautions (consistent with NYS and FDA guidance) in public education materials.
  - Incorporation of KI protective action details into EAS follow-up messages.

6. Glossary/Acronyms

CDE_T (Committed Dose Equivalent to the thyroid) -the radiation dose due to radioiodine in the thyroid over the 50-year period following exposure. In this document, *CDE_T* is used to refer to the committed dose equivalent to the child thyroid.

CFR (Code of Federal Regulations) -

Day - 24 hour period

ECL (Emergency Classification Level) - one of four classes used to describe emergencies at nuclear power plants.

EAS (Emergency Alert System) - broadcasting facilities that have been authorized by the Federal Communications Commission to operate in a controlled manner during a war, state of public peril or disaster, or other national emergency.

EPZ (Emergency Planning Zone) - the 10-mile radius around a nuclear power plant used for emergency planning purposes.

Evacuation - the urgent removal of people from an area to avoid or reduce high-level, short-term exposure, usually from the plume or from deposited radioactivity. Evacuation may be a preemptive action taken in response to a facility condition rather than an actual release.

ETE (Evacuation Time Estimate) - the time it is estimated to take to evacuate a certain area taking into consideration population size, road conditions, etc.

FEMA (Federal Emergency Management Agency) - the federal agency responsible for coordinating federal response to an emergency.

FR (Federal Register)

FRPCC (Federal Radiological Preparedness Coordinating Committee)

GE (General Emergency) - the most serious of four NRC emergency classes. Classification as a general emergency indicates that events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential loss of containment integrity. Releases can reasonably be expected to exceed EPA Protective Action Guide exposure levels offsite for more than the immediate site area.

Maintain a heightened state of awareness - go inside and monitor EAS.

Neonate - infant under 1 month of age

NRC (Nuclear Regulatory Commission) - the federal agency that licenses and regulates nuclear power plants. The NRC would be the lead federal agency for responding to an emergency at a nuclear power plant.

PAG (Protective Action Guide) - the projected dose to reference man, or other defined individual, from an accidental release of radioactive material at which a specific protective action to reduce or avoid that dose is warranted.

Shelter-in-Place - a protective action where people go indoors, close all doors and windows, turn off all sources of outside air, and remain indoors until officially notified that it is safe to go out.

US FDA (United States Food and Drug Administration) - the federal agency, which among other things, is responsible for evaluating and approving drugs.

References

(Ref. 1) 66 FR 5427 (19 Jan 2001).

(Ref. 2) 67 FR 1355 on (10 Jan 2002).

(Ref. 3) Guidance: Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies: USFDA, Dec 2001.

(Ref. 4) Nine Mile Point / James A. FitzPatrick Nuclear Facility Development of Evacuation Time Estimates, August 2003

(Ref. 5) EPA 400-R-92-001, Manual or Protective Action Guides and Protective Actions for Nuclear Incidents, USEPA, May 1992.

(Ref. 6) (NYSDOH RASCAL calculation).

(Ref. 7) NUREG-0654 FEMA REP 1: Appendix 1.

(Ref. 8) EPA 400-R-92-001, Manual or Protective Action Guides and Protective Actions for Nuclear Incidents, USEPA, May 1992, Table 2-2 footnote b.

(Ref. 9) Implementation of the new EPA Protective Action Guides in Existing Emergency Programs for Nuclear Power Plants in New York State, March 1994.

(Ref. 10) Guidance for Industry: KI in Radiation Emergencies – Questions and Answers, Revision 1, USFDA, December 2002.

III. Protective Countermeasures for Radioactive Iodine Inhalation

Several methods are available for minimizing thyroid exposure from the plume of radioactive iodine.

a. Evacuation. This method would eliminate any exposure if completed prior to the plume passing the area of concern.

b. Sheltering. This method will reduce the overall exposure by affording the population attenuation from radiation. Implementation of protective measures such as closing windows and doors, stopping air conditioners, and closing ventilation systems reduces the inhalation of air from a passing radioactive plume.

c. Respiratory protective devices can also be utilized to reduce the inhalation of radioactive iodine. The respirators should incorporate charcoal filter mechanisms to maximize the protection from inhalation of radioiodine. "Ad hoc" respiratory protection can also be improvised (e.g. breathing through folded damp handkerchief, etc.) to reduce the intake of radioactive iodine.

d. Thyroid Blocking Agents. Agents that block accumulation of radioiodine by the thyroid gland are available in different chemical compounds. However, only one type is approved by FDA for thyroid blocking purposes--potassium iodide.

Iodide acts on the thyroid in different ways: (1) as substrate, (2) by suppression of the release of organic iodine from the gland, (3) by inhibition of organic formation, (4) by saturation of the iodide transport system, (5) by the formulation of an organic iodine compound that inhibits the further uptake of I-131. The onset of inhibition is rapid and is readily demonstrated 30 minutes after oral administration. An important factor in obtaining satisfactory acute blocks of radioiodine-uptakes is the speed of iodide administration after exposure to radioiodine. The timeliness of thyroid blocking is of primary importance since it can be shown by standard uptake curves that, after a single pulse of radioiodine, the bulk of it has entered the gland by 10-12 hours and little benefit may be expected by blocking beyond this time.

IV. Policy for Use of KI

The National Council on Radiation Protection and Measurements (NCRP), a non-profit corporation chartered by Congress in 1964, prepared a report, "Protection of the Thyroid Gland in the Event of Releases of Radioiodine," (No. 55). The following is the summary of their recommendations regarding KI:

- A major protective action to be considered after a serious accident at a nuclear power facility involving the release of radioiodine is the use of stable iodide as a thyroid blocking agent to prevent thyroid uptake of radioiodines.

- For greatest effectiveness, the blocking agent should be administered within a few hours after an accident. Since reliable radiation monitoring data may not be available that quickly, the decision to administer stable iodide should be based on a pre-planned estimate of the probable degree of contamination from the accident.

- If the initial estimate of the facility indicates that thyroid total absorbed doses of 10-30 rad or more are projected, the blocking agent should be administered immediately to employees at the facility and to support personnel coming to or working near the facility.

- If the estimate of thyroid total absorbed dose is less than 10 rad, it may be preferable to consider instructing people to remain indoors and to await further instructions, before deciding to administer thyroid blocking agents. If the estimates of the total thyroid absorbed dose exceed 10 rad, blocking agents should be considered.

Based on information supplied by the facility operator as to the magnitude of the accident, State and local officials should consider prompt administration of the blocking agent (without making absorbed dose estimates) to emergency personnel who respond to the accident. This group includes police officers, firemen, physicians, health physicists, nurses, ambulance drivers and paramedical personnel. These people would be considered a "high-risk" group.

For people beyond the immediate vicinity of the reactor, the decision to administer stable iodide, to instruct them to remain indoors, or to evacuate would depend on the type of accident, on pre-planned estimates of release, on wind direction and, later, on monitoring data as it becomes available.

Potassium Iodide can and may be stocked at the nuclear facility, firehouses, police stations, hospitals, clinics, factories, office buildings, municipal buildings, physicians and dentists offices, pharmacies, and other locations where normal emergency medical services are usually available.

A daily dose of 130 mg of potassium iodide (1 tablet) will provide adequate blocking for each person. A half tablet may be given to children under one year of age. One tablet should be taken each day until the public is advised that the emergency has ended. The first dose should be taken as soon after the warning as possible. Instructions for the cessation of iodide administration is the responsibility of public health authorities.

The need for blocking agents is estimated as being required for 3-7 days and probably no longer than 10 days for a total dose of about 1 gram.

New York Academy of Medicine Position-- At the present time, The New York Academy of Medicine, Committee on Public Health opposes the stockpiling of potassium iodide for the purpose of potentially protecting the population against accidental exposure to radioactive iodine in New York City.

V. Federal Policy

Prior to April 1982, the FDA had not defined recommendations regarding the use of KI during radiological emergencies. This lack of definitive criteria by the Federal Government caused the States to develop policies independent of Federal Guidance.

In April 1982, the FDA published final recommendations regarding the use of KI. These recommendations established the framework for the development of KI policies.

The Federal Government planning criteria, NUREG-0654, FEMA-REP-1, Rev. 1, had specific criteria for the development of plans regarding KI usage. The specific FEMA criteria is cited below:

> The organization's plans to implement protective measures for the plume exposure pathway shall include provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons within the plume exposure EPZ whose immediate evacuation may be infeasible or very difficult, including quantities, storage, and means of distribution.

State and local organizations' plans should include the method by which decisions by the State Department of Health for administering radioprotective drugs to the general population are made during an emergency and the predetermined conditions under which such drugs may be used by offsite emergency workers.

VI. KI Logistics

KI will be available for the general public, emergency workers and captive populations. The captive population includes hospital patients and staff, nursing home patients and staff, and incarcerated populations.

The Plan calls for the pre-distribution of one tablet of KI per person as appropriate. The recommended dosage is one tablet per person per day. The minimum duration of consumption is three days. Adequate inventories of KI for use by the above-mentioned populations are available to State and County agencies and will be distributed in accordance with procedure DOH-12, Potassium Iodide (KI) Distribution.

VII. Procurement of KI Supply

Anbex Labs of New York has been authorized by the FDA to produce KI in tablet form for use during radiological emergencies. These tablets are 130 mg dosage and packed 14 tablets per packet.

The liquid form of KI was also considered. However, after consultation with health authorities, this form was not chosen for emergency workers primarily due to inaccuracies in administering the proper dosage to individuals.

The State will coordinate the acquisition of KI for State and County emergency workers. Supplies for captive populations will be the responsibility of those organizations in charge of their respective populations.

The State emergency worker supply of KI should be stored at the same locations where dosimeters and TLDs are located. Each State agency will utilize their respective dosimeter/TLD distribution procedures for the packets of KI.

The County emergency worker supply of KI should also be stored with the dosimeters and TLDS. Each County agency may utilize their respective dosimeter/TLD distribution procedures for the packets of KI.

A backup supply of KI is stored at the Rockland County Office of Fire and Emergency Services. The storage of KI tablets will conform to the manufacturer's instructions. KI should be stored at controlled room temperature between 15 and 30 degrees Centigrade (59 to 80 degrees Fahrenheit). The packet must be tightly closed and protected from light.

Inventory accountability for the supply of KI should be added to the existing equipment inventory procedures.

VIII. Medical Aspects

The administration of KI requires maintaining a log of persons taking KI. The State and County emergency workers will utilize their Radiation Exposure Control Cards for logging their consumption of KI. Captive populations should utilize a KI Registry Form that contains the following information: name, social security number, facility, date and amount taken.

The two forms will be utilized for recording any immediate side effects of the consumption of KI tablets.

Upon termination of the accident that required the consumption of KI tablets, all records of consumption will be tabulated by the local health units and forwarded to the New York State Department of Health.

A review of the FDA policy for KI was conducted to verify conformance with the New York State Board of Pharmacy Regulations regarding this particular use of KI. No discrepancies were identified.

IX. Education Needs

The following audiences require training on details regarding distribution, shelf-life, required uses, who should use KI, benefit vs. risk data, instructions for use and medical consultation with physicians:

- Medical doctors and public health officials,
- State and County emergency workers,
- Special population residents and staff,
- NYSDOH, and SEMO staff.

X. Reference

FDA01 Guidance, Potassium Iodide As a Thyroid Blocking Agent in Radiation Emergencies, US Department of Health and Human Services, Food and Drug Administration, Center for Drug Evaluation and Research. December, 2001.

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX I
COUNTY RESPONSE ACTION LEVEL GUIDELINES

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY	COUNTY RESPONSE ACTIONS
Unusual Event	None	Office of Fire & Emergency Services (OFES)	1. Escalate to a more severe class, if appropriate. 2. Stand by until verbal closeout.

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY(S)	COUNTY RESPONSE ACTIONS
Alert	Less than 1 Rem TEDE Less than 5 Rem TODE	Sheriff	1. Notification of County Response Agencies.
		OFES	2. Augment resources and activate EOC and other primary response centers.
		OFES and County Response Agencies	3. Alert to standby status/activate key emergency personnel including monitoring teams and associated communications.
		Department of Health (DOH)	4. Provide confirmatory radiation monitoring, if appropriate.
		Emergency Coordinator and OFES	5. Implement appropriate initial precautionary operations.
		OFES and County Response Agencies	6. Escalate to a more severe class, if appropriate. Maintain Alert status until verbal closeout or reduction of emergency class.

Note: TEDE means Total Eff. Dose Equivalent
TODE means Total Organ Dose Equivalent

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY(S)	COUNTY RESPONSE ACTIONS
Site Area Emergency	Less than 1 Rem TEDE 5 Rem TODE	County Response Agencies	1. Provide any assistance requested.
		OFES, Sheriff, JNC PIO	2. Activate public notification system and provide the public with periodic updates on emergency status.
		OFES and County Response Agencies	3. Augment resources by activating primary response centers.
		Sheriff, OFES, DOH	4. Dispatch key emergency personnel including monitoring teams and associated communications.
		Sheriff, OFES, County Response Agencies	5. Alert to standby status other emergency personnel (e.g. those needed for evacuation) and dispatch personnel to duty stations.
		DOH	6. Provide offsite monitoring results to NFO and others and jointly assess them

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY(S)	COUNTY RESPONSE ACTIONS
Site Area Emergency (Cont'd)		OFES and DOH	7. Continuously assess information from NFO and offsite monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources.
		DOH and State DOH	8. Recommend placing milk animals within 2 miles on stored feed and assess need to extend distance.
		JNC PIO	9. Provide press briefings.
		OFES and County Response Agencies	10. Maintain Site Area Emergency status until closeout or reduction of emergency class or escalate to General Emergency class, if appropriate.

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY(S)	COUNTY RESPONSE ACTIONS
General Emergency	Greater than 1 Rem TEDE Greater than 5 Rem TODE	County Response Agencies	1. Provide any assistance requested.
		OFES, Sheriff, JNC PIO	2. Activate public notification system and provide the public with periodic updates on emergency status.
		OFES and DOH	3. Consider evacuation of 2 mile radius and and 5 mile down wind and assess need to extend distance. Consider sheltering of remaining Areas.
		OFES and County Response Agencies	4. Augment resources by activating primary response centers.
		Sheriff, OFES, DOH	5. Dispatch key emergency personnel including monitoring teams and associated communications.

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY(S)	COUNTY RESPONSE ACTIONS
General Emergency (Cont'd)		OFES and County Response Agencies	6. Dispatch other emergency personnel to duty stations within 5 mile radius and alert all others to standby status.
		DOH	7. Provide offsite monitoring results to NFO and others and jointly assess them.
		OFES and DOH	8. Continuously assess information from NFO and offsite monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources.
		DOH and State DOH	9. Recommend placing milk animals within 10 miles on stored feed and assess need to extend distance.
		JNC PIO	10. Provide press briefings.

EMERGENCY CLASSIFICATION	POTENTIAL OFFSITE RADIOLOGICAL DOSE	RESPONSIBLE AGENCY(S)	COUNTY RESPONSE ACTIONS
General Emergency (Cont'd.)		OFES and County Response Agencies	11. Maintain General Emergency status until closeout or reduction of emergency class.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX J
PUBLIC INFORMATION

Procedures for the Rockland County Public Information Officer and personnel are contained in the County Public Information Procedure, PI-1, and the Joint Information Center Procedures, Public Education Work Plan, Hawthorne, 2006, which is on file at the Joint Information Center and at the State Emergency Operations Center.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX K
LETTERS OF AGREEMENT AND SUPPORT PLANS

1. SUPPORT PLANS

Rockland County Police Mutual Aid Plan
Rockland County Fire Mutual Aid Plan
New York State First District Ambulance Association Plan
Indian Point Joint News Center Procedures and Public Information/Education Workplan
Westchester County Radiological Emergency Preparedness Plan
Orange County Radiological Emergency Preparedness Plan
Putnam County Radiological Emergency Preparedness Plan
New York State Radiological Emergency Preparedness Plan and NYS Support Plans and Procedures
USCG Captain of the Port, New York, Radiological Emergency Response Plan
New York Power Authority and Con Edison Company Alert and Notification System, Indian Point Nuclear Power Plants
Entergy Indian Point 3 Nuclear Power Plant- Emergency Plan
Emergency Plan for the Indian Point Unit Nos. 1 and 2, Entergy
Procedure for Obtaining EMS Ambulance Service in the Event of a Mass Casualty Incident in Rockland County, New York (Ambulance Mutual Aid Plan).
Rockland County Comprehensive Emergency Plan

2. LETTERS OF AGREEMENT

The following organizations have Letters of Agreement/Memoranda of Understanding with Rockland County for the utilization of their facilities, and/or equipment and/or personnel and are on file at the Office of Fire and Emergency Services:

Congers/Valley Cottage Ambulance Corps
Hatzolah Ambulance Corps
Haverstraw Ambulance Corps
Nanuet Community Ambulance Corps
New City Volunteer Ambulance Corps
Nyack Community Ambulance Corps
Rockland Paramedics
Rockland Mobile Care
Piermont Ambulance Corps

Pearl River Alumni Ambulance Corps.
Ramapo Valley Ambulance Corps.
Sloatsburg Community Ambulance Corps.
South Orangetown Ambulance Corps.
Spring Hill Community Ambulance Corps.
Stony Point Ambulance Corps.
W.P. Faist

East Ramapo Central School District
Ramapo School District
Nanuet School District
South Orangetown School District
Pearl River School District

St. Thomas Aquinas College
Bergen Catholic High School
St. Joseph's High School
Board of Education of the Bergen County Vocational School*

Haverstraw Transit, Inc.
Peter Brega, Inc.
Clarkstown Central School District
Chestnut Ridge Transportation, Inc. (formerly Act II Transportation)
East Ramapo Central School District
Coach USA (formerly Red and Tan Lines)
Student Bus Co. (formerly Laidlaw Transit Inc.)
Monsey New Square Trails Corp.
Town of Clarkstown (Mini-Trans)
BOCES - Nyack

Bergen County (NJ)

APPENDIX K

Good Samaritan Hospital

Congregate Care Centers are under agreement with the American Red Cross

* NOTE: This MOU applies to the following facilities:

Central Technical Education Center
Paramus Special Needs

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
AI-Item	a	Identification of Response Organizations	Part I, Section I-E, and Section III
	b	Organization Concept of Operations	Part I, Section III
	c	Organization Inter-relationships - Block Diagram	Part I, Section III-C, Table III-1, ADMIN-4
	d	Designation of Organization Director	Part I, Section III-B.1 and C.1, EC-1, ADMIN-4
	e	24-Hour Response/Communication	Part I, Section III-B.2 and B.4, RCS-4
A2-Item	a	Organization Authority	Part II, Section III, ADMIN-4
	b	Legal Basis for Organization Authority	Part I, Section I-F
A3		Written Agreements with Supporting organizations	Part I, Section I-E, & Appendix K, see also NYSREPP, IP REPP for Westchester Co.
A4		Designated Authority for Organization Resource Continuity	Part I, Section III-B.1 and B.2

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
B		Onsite Emergency Organization	N/A
CI-Item	a	Authority to Request RAP/IRAP	Part I, Section I-E
	b	Federal Resources	Part I, Section III-B.6
	c	Resources to Support Federal Agencies	Part I, Section I.E.3 See NYS REPP
C2-Item	a	Organization Representative at Near-Site Emergency Operations Facility	Part I, Section III-B.6
	b	NFO Liaison to EOC	Part I, Section III-B.2
C3		Radiological Laboratories	See NYS REPP
C4		Assistance Sources	Part I Section III, Appendix K
D1		Facility Emergency Classification System	N/A
D2		Appendix I/FSAR Conditions and Postulated Accidents	N/A
D3		Emergency Classification System and Emergency Action Level Scheme	Part I, Section I-C, and Appendix I

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (REPP)
D4	Procedures for Emergency Action Consistent with Emergency Actions Recommended by Nuclear Facility	Part I, Section III-B.6, DOH-5, DOH-6
E1	Procedures for Organization Notification/Verification	Part I, Section III-B.2, all RERAPs Numbered 1, RCS-4
E2	Personnel Notification/Alert/ Mobilization Procedures	Part I, Section III-B.2, RCS-4
E3	Contents of Initial Plant Emergency Messages	N/A
E4	Provision for/Content of Plant Follow-Up Messages	N/A
E5	Dissemination of Information from Plant Operators	Part I, Section III-B.3 and B.8.d and C.5, Appendix J, PI-1
E6	Means/Time for Population Notification within Plume Exposure Pathway	Part I, Section III-B.5 and C.4, Appendix J, RCS-6

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
E7		Provision for Written Public Instructions consistent with Licensee Classification Scheme	Part I, Section III-B.3, Appendix J, PI-1
F1-Item	a	24-Hour Notification of Emergency Response Network	Part I, Section III-B.2 and B.4, RCS-4
	b	Provision for Communications with contiguous State/Local Governments	Part I, Section III-B.4
	c	Provision for Communications with Federal Organizations	See NYS REPP Part I, Section III-2.3.2, Procedure B, Section 5.7, And Procedure H, Section 6.2.2
	d	Provision for Communications Between Facility and Emergency Operations Centers	Part I, Section III-B.4 and B.6, Appendix F, DOH-7,
	e	Provisions for Alert/Activation of Response Organization Personnel	Part I, Section III B.2 and B.4, RCS-4
	f	Provision for Communication with NRC/Emergency Operations Facility	N/A
F2		Medical Communications	Part I, Section III-B.4, EMS-2
F3		Communications System Testing	Part I, Section II-B.3 and B.4, Appendix F, ADMIN-6

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
G1		Public Emergency Education/Information	Part I, Section II-B.6 and Section III-C.5
G2		Public Emergency Education Program	Part I, Section II-B.6 and Section III-B.8.d and C.5
G3-Item	a	Public Information Control Point	Part I, Section III-B.3 and C.5, PI-1
	b	Space for News Media	N/A
G4-Item	a	Designated Public Information Spokesperson	Part I, Section III-B.3 and C.5, PI-1
	b	Spokesperson Information Exchange	Part I, Section I-D and Section III-B.3, PI-1
	c	Public Inquiry	Part I, Section III-B.3, PI-1
G5		News Media Education Program	Part I, Section II-B.6
H1		Technical/Onsite Operational Support Centers	N/A

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (REPP)
H2	Principal/Alternate Near-Site Emergency Operations Facility	N/A
H3	Provision for Emergency Operations Center	Part I, Section III-B.2, Appendix E, OES-1, OES-2, OES-3
H4	Provision for Timely Activation/ Staffing of Centers/Facilities	Part I, Section III-B.2, OES-3, OES-5, RCS-4
H5	Onsite Monitoring Systems	N/A
H6	Offsite Monitors	N/A
H7	Provision for Offsite Radiological Monitoring Equip-	Part I, Section III-B.6, Appendix G, DOH-7, DOH-11
H8	Provision for Meteorological Instrumentation/Procedures	N/A
H9	Provisions for Onsite Operations Support Center	N/A
H10	Inspection/Inventory/Calibration of Emergency Equipment/Instruments	Part I, Section II-B.4, ADMIN-5
H11	Identification of Emergency Kits in Appendix	Part I, Appendix G

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (REPP)
H12	Centralized Analysis of All Field Monitoring Data	Part I, Section III-B.6, DOH-5, DOH-7
I1	Identification of Plant Condition Parameters and Corresponding Emergency Classes	N/A
I2	Accident Sampling and Monitoring Capability	N/A
I3	Operator Methods/Techniques	N/A
I4	Onsite/Offsite Exposures and Contamination for Various Meteorological Conditions	N/A
I5	Acquisition of Meteorological Information	N/A
I6	Determination of Release Rate/ Projected Doses Given Inoperable Instrumentation	N/A
I7	Capabilities for Field Monitoring Within the Plume Exposure EPZ	Part I, Section III-B.6, DOH-5, DOH-7, DOH-11

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (REPP)
I8	Capability for Assessment of Actual/Potential Magnitude of Location of Radiological Hazards	Part I, Section III-B.6, DOH-5, DOH-7, DOH-11
I9	Capability to Detect Airborne Radioiodine Concentrations as Low as 10E-7 uCi/cc	Part I, Section III-B.6, DOH-5, DOH-7, DOH-11
I10	Estimation of Integrated Doses; Comparison with Protective Action Guides	Part I, Section III-B.6, DOH-5, DOH-6
I11	Track Airborne Plume	N/A
I11	Capability to Warn Onsite Non-Emergency Employees	N/A
J2	Offsite Shelter/Evacuation of Onsite Personnel	See Westchester County REPP
J3	Radiological Monitoring of Personnel Evacuated from Site	N/A
J4	Onsite Non-Essential Personnel Evacuation/Decontamination at Offsite Facility	N/A
J5	Accountability for Onsite Personnel	N/A

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
J6-Item	a	Onsite Personnel Respiratory Protection	N/A
	b	Onsite Personnel Protective Clothing	N/A
	c	Onsite Use of Radioprotective Drugs	N/A
J7		Recommendation of Protective Actions to Offsite Authorities	N/A
J8		Onsite Plan Contains Plume Exposure EPZ Evacuation Time Estimates	N/A
J9		Protective Action Guides (Personnel Exposure/Food Stuffs)	Part I, Section III-B.6, DOH-5 DOH-6
JI0-Item	a	Maps of Evacuation Routes/Sectors/ Relocations Centers	Part I, Appendix A and Appendix P, DOH-7, DOH-11
	b	Population Distribution by Sector/ Zone	Part I, Appendix B
JI0-Item	c	Means for Notification of Transients/Resident Population	Part I, Appendix A, III-B.8.d, RCS-6
	d	Protection of Impaired Persons	Part I, Section III-B.8.d, DPT-1, DPT-2, DSS-1 SFC-1, Att.2

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
	e	Radioprotective Drug Distribution	Part I, Section III-B.7 and Appendix H, DOH-8
	f	Radioprotective Drug Administration	Part I, Section III-B.7, Appendix H, DOH-8
	g	Means of Relocation	Part I,Section III-B.8.d, DPT-1, DPT-2
	h	Relocation Centers 5 to 10 Miles Beyond the EPZ	Part I, Section III-B.8.d, Appendix E, Appendix P, DSS-1, DSS-2
	i	Evacuation Routes/Traffic Capabilities	Part I, Section III-B.8.d, Appendix C and D
	j	Evacuated Area Access Control	Part I, Section III-B.8.d, and Appendix D, NYSP-1, RCS-1, RCS-2
	k	Evacuation Route Impediments/ Contingency Measures	Part I, Section II-B.8.d, DHY-1

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
	I	Evacuation Time Estimates for EPZ	Part I, Section III-B.8.d, and Appendix C
	m	Basis for Protective Actions used in EPZ During Emergency Conditions	Part I, Section I-D and Section III-B.6, DOH-6
J11		Protective Measures for the Ingestion Pathway	See NYS REPP
J12		Registering and Monitoring at Relocation Centers	Part I, Section III-B.7 B.8.d, DSS-1, DSS-2, DOH-2, RC/BC-2
K1		Onsite Exposure Guidelines	N/A
K2		Onsite Radiation Protection Program	N/A
K3-Item	a	24-Hour Dosimetry Service	Part I, Section III-B.7, NYS REPP
	b	Maintenance of Dose Records	Part I, Section III-B.7, DOH-4

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
K4		Authorization for Personnel Exposure in Excess of the Protection Action Guides	Part I, Section III-B.7,DOH-4
K5-Item	a	Determination of Need for Decontamination	Part I, Section III-B.7 DOH-2
	b	Means for Decontamination/Waste Disposal	Part I, Section III-B.7 DOH-2
K6		Onsite Contamination Control	N/A
K7		Capability for Decontamination of Relocated Onsite Personnel	N/A
LI		Ability of Medical/Health Services to Evaluate Radiation Exposure/Handle Contaminated Individuals	Part I, Section III-B.7 and B.8.d, EMS-2
L2		Onsite First Aid Capability	N/A
L3		Identification of Medical Services/Facilities Equipped/Trained to treat Radiological Accident Victims	N/A

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
L4		Transportation to Medical Facilities	Part I, Section III-B.7.d, EMS-2
M1		Plans for Recovery/De-escalation	Section IV, DOH-10
M2		Designation of Facility Recovery Organization	N/A
M3		Notification of Recovery Operation Initiation	N/A
M4		Methodology for Periodic Estimation of Total Population Exposure	N/A
NI-Item	a	Periodic Exercises of Emergency Response Capabilities	Part I, Section II-B.3, ADMIN-3
	b	Exercise Critique	Part I, Section II-B.3, ADMIN-3
N2-Item	a	Communication Drills	Part I, Section II-B.3, and B.4, ADMIN-3, ADMIN-6
	b	Fire Drills	N/A

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
	c	Medical Emergency Drills	Part I, Section II-B.3, ADMIN-3
	d	Radiological Monitoring Drills	Part I, Section II-B.3, ADMIN-3
	e	Health Physics Drills	N/A
N3-Items a,b,c,d,e,f		Drill Scenarios	Part I, Section II-B.3, ADMIN-3
N4		Qualified Observers/Critique/ Formal Evaluation of Exercises	Part I, Section II-B.3, ADMIN-3
N5		Improvements/Corrective Actions	Part I, Section II-B.3, ADMIN-3
O1		Individual Radiological Response Training	Part I, Section II-B.3, ADMIN-3
	a	Onsite Training for Offsite Organizations	N/A
	b	Offsite Emergency Response Organization Training	Part I, Section II-B.5, ADMIN-3
O2		Training for Onsite Organization	N/A

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
O3		Licensee First Aid Training	N/A
O4-Item	a	Organization Director Training	Part I, Section II-B.5, ADMIN-3
	b	Accident Assessment Personnel Training	Part I, Section II-B.5, ADMIN-3
	c	Radiological Monitoring Training	Part I, Section II-B.5, ADMIN-3
	d	Police and Fire Fighting PersonnelPart I, Training	Section II-B.5, ADMIN-3
04-Item	e	Onsite	N/A
	f	First Aid and Rescue Personnel Training	Part I, Section II-B.5, ADMIN-3
	g	Emergency Service Personnel Training	Part I, Section II-B.5, ADMIN-3
	h	Medical Support Personnel Training	Part I,Section II-B.5, ADMIN-3
	i	Licensee Headquarters Support Personnel	N/A

APPENDIX L

EVALUATION CRITERIA CROSS REFERENCE INDEX FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT RADIOLOGICAL EMERGENCY PREPAREDNESS

TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG-0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (REPP)
	j	Personnel Responsible for Transmission of Emergency Information and Instruction	Part I,Section II-B.5, ADMIN-3
05		Annual Retraining of Personnel	Part I, Section II-B.5, ADMIN-3
P1		Planning Personnel Training	Part I, Section II-B.5
P6		Listing of Support Plans	Part I, Appendix K
P7		Procedures for Plan Implementation	Part I, Appendix M
P8		Plan Index/Table of Contents Cross Reference to Criteria	Table of Contents, Part I, Appendix L
P9		Independent Review of Emergency Preparedness Program	N/A
P10		Quarterly Update of Telephone Numbers	Part I, Section II-B, ADMIN-2

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN
APPENDIX M
PROCEDURES CROSS REFERENCE
PROCEDURES REQUIRED TO IMPLEMENT PART I OF THIS PLAN

	Procedure/Response Action	Plan Section(s)
P2	Designation of Planning Authority	Part I, Section II-B.1, ADMIN-4
P3	Designation of Emergency Planning Coordinator	Part I, Section II-B.1, ADMIN-2
P4	Annual Review and Update of Response Plan	Part I, Section II-B.1, ADMIN-2
P5	Provisions for Plan Distribution and Promulgation of Plan Revisions	Part I, Section II-B.1, ADMIN-2
EC-1	Emergency Coordinator Emergency Response Actions	III-B1, III-B2, III-B3, III-B4, III-B5, III-B6, III-B7, III-B8, III-CI, III-C7, III-C8, IV-B, IV-C
EC-2	Operations Liaison Emergency Response Actions	
ARC-1	American Red Cross EOC Operations Emergency Response Actions	III-B2, III-B4, III-B8, III-C15, III-C17, IV-B,
DHY-1	Department of Highways Emergency Response Actions	III-B2, III-B4, III-B8, III-C13, IV-B
DOH-1	Commissioner of Health Emergency Response Actions	III-B1, III-B2, III-B4, III-B6, III-B7, III-B8, III-C6, III-C7, III-C8, IV-B, IV-C
DOH-2	Personnel Monitoring Centers	III-B2, III-B4, III-B7, III-B8, III-C8, IV-B
DOH-3	Dose Assessment Staffing	III-B2, III-B4

APPENDIX M

PROCEDURES REQUIRED TO IMPLEMENT PART I OF THIS PLAN

	Procedure/Response Action	Plan Section(s)
DOH-4	Exposure Control Coordinator	III-B2, III-B4, III-B7, III-C8
DOH-5	Dose Assessment Calculations	III-B6, III-B7, III-B8,
DOH-6	Recommendation for Protective Measures	III-B6, III-B8, III-C7
DOH-7	Field Monitoring Team Coordinator	III-B2, III-B4, III-B6, III-B7, III-C6, III-C8
DOH-8	Potassium Iodide Issue and Use	III-B6, III-B7, III-C8
DOH-9	Number not used	
DOH-10	Recovery/Re-entry	IV-B, IV-C
DOH-11	Field Monitoring Teams	III-B2, III-B4, III-B6, III-B7, III-C6, III-C8
DPT-1	Department of Public Transportation Emergency Response Actions	III-B2, III-B4, III-B8, III-C12, III-C14, III-C18
DPT-2	Emergency Transportation	III-B8, III-C12, III,C14, III-C18
DPT-3	Transportation Providers and Bus Drivers Emergency Response Actions	III-B7, III-B8, III-C12, III-C14, III-C18
DPT-4	Transportation Liaisons Emergency Response Actions	III-B7, III-B8, III-C12, III-C14, III-C18
DSS-1	Department of Social Services Emergency Response Actions	III-B2, III-B4, III-B8, III-C15, III-C17, IV-B
DSS-2	Reception Center Operations	III-B8, III-C15

APPENDIX M

PROCEDURES REQUIRED TO IMPLEMENT PART I OF THIS PLAN

	Procedure/Response Actions	Plan Section (s)
EMS-1	Emergency Medical Coordinator Emergency Response Actions	III-B2, III-B4, III-B7, III-B8, III-C3, III-C8, III-C11, III-C12,
EMS-2	Handling and Transport of Contaminated and/or Injured Individuals to Medical Facilities	III-B7, III-C8, III-CII
FCOR-1	Fire Coordinator Emergency Response Actions	III-B2, III-B4, III-B5, III-B7, III-B8, III-C3, III-C4, III-C10
HELP-1	Helicopter Emergency Lift Program (HELP) Emergency Response Actions	III-B2, III-B5, III-B8, III-C4, III-C10
NYSP-1	New York State Police Emergency Response Actions	III-B2, III-B7, III-B8, III-C3, III-C8, III-C9
OES-1	CDES Emergency Response Actions	III-B1, III-B2, III-B4, III-B5, III-B7, III-B8, III-C1, III-C2, III-C3, IV-B, IV-C
OES-2	Operations Manager Emergency Response Actions	III-B2, III-C2
OES-3	Operations Information Coordinator Emergency Response Actions	III-B2, III-C2
OES-4	EOC Resource Coordinator Emergency Response Actions	III-B2, III-C2
OES-5	EOC Monitoring	III-B2, III-B7, III-C8
OES-6	Emergency Worker Family Reception Center	III-B2, III-B8, III-C15
OES-7	Decontamination Facility	III-B2, III-B7, III-C8
OFA-1	Office of the Aging Emergency Response Actions	III-B2, III-B8, III-C14,
OPH-1	Office of Physically Handicapped Emergency Response Actions	III-B8, III-C11
PI-1	Public Information Emergency Response Actions	III-B2, III-B3, III-B4, III-B5, III-C4, III-C5, IV-B

APPENDIX M

PROCEDURES REQUIRED TO IMPLEMENT PART I OF THIS PLAN

	Procedure/Response Action	Plan Section (s)
RACES-1	Radio Amateur Civil Emergency Services	III-B2, III-B4, III-B8, III-C3, III-C15, III-C17
RC/BC-1	Rockland County Liaison to Bergen County	III-B2, III-B4, III-B8, III-Cl6
RCS-1	Rockland County Sheriff Emergency Response Actions	III-B2, III-B4, III-B5, III-B7, III-B8, III-C2, III-C3, III-C4, III-C9, III-C1O, IV-B
RCS-2	Traffic Control	III-B8, III-C9
RCS-3	Emergency Operations Center (EOC) Security	III-B2, III-C2, III-C9
RCS-4	Notification of Response Agencies	III-B2, III-B4, III-C3
RCS-5	Local Law Enforcement Agencies	III-B2, III-B4, III-B5, III-B8, III-C3, III-C9, IV-B
RCS-6	Alert and Notification System Activation	III-B4, III-B5, III-B8, III-C3, III-C4
SCH-1	Schools Emergency Response Actions	III-B2, III-B8, III-Cl8
SFC-1	Special Facilities Coordinator Emergency Response Actions	III-B2, III-B8, III-Cl2
PIP-1	New York State Park Police Emergency Response Actions	III-B2, III-B4, III-B5, III-B7, III-B8, III-C5, III-C9
ADMIN-1	Radiological Emergency Response Agency Procedure Development	II-B

APPENDIX M

PROCEDURES REQUIRED TO IMPLEMENT PART I OF THIS PLAN

	Procedure/Response Action	Plan Section (s)
ADMIN-2	Document Control	II-B
ADMIN-3	Training	II-B
ADMIN-4	Emergency Organization	II-B
ADMIN-5	Equipment Inventory and Maintenance	II-B
ADMIN-6	Communications Testing	II-B
ADMIN-7	Telephone Listing	II-B

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX N
GLOSSARY OF TERMS AND ACRONYMS

1. GLOSSARY OF TERMS:

Absorbed Dose: The quantity of energy absorbed from ionization per unit mass of tissue. The rad is the unit of absorbed dose.

Airborne Radioactive Material: Any radioactive material dispersed in the air in the form of dusts, fumes, mists, vapors or gases.

Alert: An emergency classification declared when an event or series of events indicates and requires recognition of an actual or potential substantial degradation of the level of plant safety.

Alpha Particles: Positively charged particles identical with the nuclei of helium atoms. They penetrate tissues to usually less than 0.1 mm (1/250 inch) but create dense ionization and heavy absorbed doses along these short tracks.

Areas: A subdivision of the 10-mile Emergency Planning Zone (EPZ).

Alternate Emergency Operation Facility (AEOF): See Emergency Operation Facility definition.

Background Radiation: Radiation arising from material other than the one directly under consideration. Cosmic rays and natural radioactivity are always present and man-made sources may also contribute to the background radiation level.

Beta Particles: Electrons ejected from the nuclei of atoms; extremely tiny bits of matter travelling at nearly the speed of light. Their range in air can be several feet. In heavier material, such as the human body, they expend their energy within about 2 mm (1/10 inch).

Central Control Room (CCR): Location at the Indian Point Energy Center where reactor and auxiliary stations are controlled.

Committed Dose Equivalent (CDE): the dose equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

Committed Effective Dose Equivalent (CEDE): the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.

Congregate Care Center: Mass care shelter outside the plume exposure emergency planning zone that will provide temporary housing, food and other necessities to evacuees needing them.

Contamination (Radioactivity): Deposition of radioactive material in any place where it may harm persons, spoil experiments or make products or equipment unsuitable or unsafe for some specific use. The presence of unwanted radioactive matter.

Decay: Disintegration of the nucleus of a radionuclide in a radioactive process.

Decay Product: A nuclide, either radioactive or stable, resulting from the disintegration of a radioactive material.

Decontamination: The reduction or removal of contaminating radioactive material from a structure, area, object or person.

Deep Dose Equivalent (DDE): the dose equivalent at tissue depth of 1cm (1000 mg/square cm).

Dose: The quantity of energy absorbed from ionization per unit mass of tissue. The rad is the unit of absorbed dose.

Dose Equivalent: A quantity that expresses all types of nuclear radiation on a common scale to indicate relative biological effects. The rem is the unit of dose equivalent.

Dose Rate: Absorbed dose delivered per unit time, as rads per second or rads per hour.

Dosimeter: A device that measures radiation dose, such as a TLD or an ionization chamber.

Emergency Director (ED): A highly trained individual representing the NFO, who is responsible for directing onsite actions during an emergency at the nuclear power station. Position occupied by the Shift Supervisor (NYPA), Senior Watch Supervisor (Con Edison) or Plant Operations Manager (Con Edison) until relieved by a higher ranking individual.

Emergency Operations Center (EOC): A facility at the headquarters of each offsite response agency or some other designated location that may be used to direct the action taken by designated agencies under its jurisdiction during an emergency at the Indian Point Energy Center.

Emergency Operations Facility (EOF): A facility operated by the NFO for the purpose of evaluating and controlling emergency situations and coordinating emergency responses.

Emergency Planning Zone (EPZ): The area surrounding the nuclear plant site for which planning has been done to assure that prompt and effective actions can be taken to protect the public in the event of a radiological incident. The EPZ is usually a radius of about ten (10) miles for the plume exposure pathway and a radius of about fifty (50) miles for the ingestion exposure pathway.

Evacuation: The process of removing people from a hazardous or potentially hazardous area to a safe area.

Evacuation Time Estimate: The roadway travel time required to leave the plume exposure emergency planning zone after mobilization has been completed.

Exposure: A measure of the ionization produced in air by X-ray or gamma radiation. The roentgen (R) is the unit of exposure. The term "dose", sometimes used interchangeably with exposure, actually refers to absorbed radiation.

Gamma Rays: Electromagnetic radiation comparable to light. They are similar to X-rays except for their origin. They are emitted with energies characteristic of each nuclide, and many are highly penetrating. Although their intensity decreases exponentially with thickness of the absorbing material, they can travel hundreds of feet in air and penetrate completely through the body.

General Emergency: An emergency classification declared during accidents that involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Included in the General Emergency Classification are other accidents which have large radioactive release potential such as fuel handling and waste gas system accidents.

General Population: All people in plume exposure emergency planning zone including residents and transients but not special facility populations in schools, camps, parks.

Geiger-Muller Counter (Geiger-Muller Tube): A radiation detection and measuring instrument. It consists of a gas-filled (Geiger-Muller) tube containing electrodes, between which there is an electrical voltage but no current flowing. When ionizing radiation passes through the tube, a short intense pulse of current passes from the negative electrode to the positive electrode and is measured or counted. The number of pulses per second measures the intensity of radiation. It is also often known as a Geiger Counter.

Ingestion Exposure Pathway (50-mile EPZ): For planning purposes, the area within about a fifty (50) mile radius surrounding a nuclear plant site. The principal exposure from this pathway would be from the ingestion of contaminated water or foods.

Internal Radiation: Radiation (including alpha and beta particles and Gamma radiation) resulting from radioactive substances within the body.

Ionizing Radiation: Any radiation capable of displacing electrons from atoms or molecules thereby producing ions, e.g. X-ray, gamma rays.

Isotopes: Forms of the same element having identical chemical properties but differing in their atomic masses. A radioisotope is an unstable isotope of an element that decays or disintegrates spontaneously, emitting radiation.

Joint News Center (JNC): A facility designated as a news media center during a radiological emergency.

Millirem: One-thousandth (1/1000) of a rem.

Milliroentgen (mR): One-thousandth (1/1000) of a Roentgen.

Monitoring, Radiological: The operation of locating and measuring radioactive contamination by means of survey instruments that can detect and measure (as dose rates) ionizing radiations.

Nuclear Facility Operator (NFO): The entity (Entergy Northeast) licensed by the Nuclear Regulatory Commission to operate a nuclear facility (Indian Point Units 1, 2, and 3).

Nuclear Reactor: A device in which a fission chain reaction can be initiated, maintained, and controlled. Its essential component is a core with fissionable fuel.

Personnel Monitoring Center (PMC). Those facilities or locations where individuals or equipment will be monitored for radioactive contamination and decontaminated as necessary.

Plume Exposure Pathway (10-mile EPZ): For planning purposes, the area within a ten mile radius surrounding a nuclear plant site. The principal exposure sources from this pathway are; (a) whole body exposure to gamma radiation from the plume and from deposit material, and (b) inhalation exposure from the passing radioactive plume.

Projected Dose: The calculated radiation dose which affected individuals could potentially receive.

Protective Action: An action taken to avoid or reduce a projected dose.

Protective Action Guide (PAG): The projected absorbed dose to individuals in the general population which warrants a protective action.

Rad: The unit of absorbed dose in body tissue or other material.

Radiation Area: Any accessible area in which the level of radiation is such that a major portion of an individuals body could receive, in any one hour, a dose in excess of 5 millirem, or in any 5 consecutive days, a dose in excess of 100 millirem.

Radioactivity: The property of certain nuclides of spontaneously emitting nuclear particles or gamma or X-ray radiation, or of undergoing spontaneous fission.

Radioassay: The analysis of any substance (food, water, soil, etc.) to determine the presence and magnitude of radioactive contamination.

Radioiodines: A family of radioactive iodines: I-131, I-132, I-133, I-134 and I-135, these are the radioiodines of primary significance for radiological emergencies involving nuclear power plants.

Radiological: A general term referring to processes that involve nuclear radiation.

Reception Center: A pre-designated facility outside the plume exposure emergency planning zone at which evacuees can receive directions to congregate care centers, reunite with others, receive general information, and, if necessary, receive radiological monitoring and decontamination.

Release: Escape of radioactive materials into the environment.

Rem: The unit of radiation dose affecting body tissue. It is equal to the absorbed dose (measured in rads) multiplied by the quality factor (which takes into account the effectiveness of different types of radiation) and by other multiplying factors. For beta and gamma radiation the quality factor is 1. For planning purposes 1 Rem is equivalent to 1 Roentgen.

Roentgen (R): The unit of radiation exposure in air. Roentgens are the units for quantities of X-ray or gamma radiation measured by detection and survey meters. For planning purposes 1 Roentgen is equivalent to 1 Rem.

School Reception Center: A pre-designated facility outside the plume exposure emergency planning zone that will be a host facility for evacuating schools until children are picked up by their families.

Shelter: A structure or other location offering shielding from nuclear radiation in the environment.

Sheltering: An action taken to reduce exposure to radiologically contaminated air by going indoors.

Shielding: Any material or barrier that attenuates radiation.

Site Area Emergency: An emergency classification for accidents of actual or likely major failures of plant functions which erode protection of the public. Includes accidents that have a significant radiation release potential.

Site Boundary: Area surrounding the nuclear plant site, in which the NFO has the authority to determine and control all activities including exclusion or removal of personnel and property from the area.

Source Term: An amount of radionuclide originating at the source of a nuclear incident. In its broadest sense, source term also describes the conditions and mode of emission.

Special Facility: Institution or location having either a residential population of fifteen or more people or having sizeable, but temporary, attendance at predictable times (camps, nursing homes, hospitals, schools, etc.).

Survey Meter: A portable instrument used in radiological monitoring to detect and measure ionizing radiation.

Thermoluminescent Dosimeter (TLD): A dosimetry badge worn by workers in the nuclear industry or research, used to measure possible exposure to ionizing radiation. It is characteristic of thermoluminescent material that radiation causes internal changes which make the material, when subsequently heated, give off an amount of light directly proportional to the radiation dose, which can be measured.

Total Effective Dose Equivalent (TEDE): the sum of the deep dose equivalent (DDE) and the committed effective dose equivalent CEDE).

Thyroid Blocking Agent: A chemical compound taken to prevent or reduce the absorption by the thyroid of radioiodine. Potassium iodide (KI) is the typical blocking agent used in New York State.

Thyroid Exposure: Exposure of the thyroid gland to radiation from radioactive isotopes of iodine which have been either absorbed or ingested.

Total Organ Dose Equivalent (TODE): the sum of the deep dose equivalent (DDE) and the committed dose equivalent (CDE).

Traffic Zone: A subdivision of a planning area associated with one specified primary evacuation route and particular Reception Center.

Transient Population: Those people who are only temporarily in, but do not permanently reside in, the 10 mile EPZ. They include tourists, employees not residing in the areas or other groups who visit the area. They do not include those in special facilities.

Transit-dependents: People without access to an automobile for the purpose of leaving the 10 mile EPZ at the time of an evacuation.

Transportation Staging Area: A designated area where transportation resources are assembled prior to dispatch and information on traffic routes/impediments are provided.

Unusual Event: An emergency classification declared during an event or events that indicates or requires recognition of a potential degradation of the level of safety of the plant including incidents of contaminated and/or injured individuals who require offsite emergency treatment.

Warning Point (WP): A location designated during an emergency by an offsite government agency for the purposes of receiving and promulgating warning information 24 hours a day, 7 days a week.

Whole Body Counter: A device used to identify and measure the radiation in the body (body burden) of human beings and animals; it uses heavy shielding to keep out background radiation and ultrasensitive scintillation detectors and electronic equipment.

Whole Body Exposure: Exposure of the whole body to radiation.

2. ACRONYMS:

AEOF	Alternate Emergency Operations Facility
ANS	Alert and Notification System
ARC	American Red Cross
BOCES	Board of Cooperative Educational Services
CCR	Central Control Room
CDE	Committed Dose Equivalent
CDES	County Director of Emergency Services
CEDE	Committed Effective Dose Equivalent
CPM	Counts Per Minute
DDE	Deep Dose Equivalent
DEC	Department of Environmental Conservation
DOE	Department of Energy
DRD	Direct Reading Dosimeter
EBS	Emergency Alert System
ECL	Emergency Classification Level
ED	Emergency Director
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	Environmental Protection Agency
EPZ	Emergency Planning Zone
ETTE	Evacuation Travel Time Estimates
FEMA	Federal Emergency Management Agency
GE	General Emergency
IPNPS	Indian Point Energy Center
JNC	Joint News Center
KI	Potassium Iodide
MIDAS	Meteorological Information and Dose Assessment System
mR	milliRoentgen
Mwe	Megawatt electric
Mwt	Megawatt thermal
NFO	Nuclear Facility Operator
NRC	Nuclear Regulatory Commission

NUE	Notification of Unusual Event
NYSDPC	New York State Disaster Preparedness Commission
ODP	Office of Disaster Preparedness
OFES	Office of Fire and Emergency Services
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PIO	Public Information Officer
PMC	Personnel Monitoring Center
PWR	Pressurized Water Reactor
R	Roentgen
RACES	Radio Amateur Civil Emergency Services
RAP	Radiological Assistance Plan
RECS	Radiological Emergency Communications System
SAE	Site Area Emergency
SEMO	State Emergency Management Office
TCP	Traffic Control Point
TDD	Telecommunications Device for the Deaf
TEDE	Total Effective Dose Equivalent
TLD	Thermoluminescent Dosimeter
TODE	Total Organ Dose Equivalent
TSA	Transportation Staging Area
WP	Warning Point

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX O
REFERENCE DOCUMENTS

NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria For Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

NUREG-0396/EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants."

FEMA-REP-14 (September 1991), "Radiological Emergency Preparedness Exercise Manual."

"Evacuation Travel Time Estimates for the Indian Point Nuclear Power Station Plume Exposure Pathway Emergency Planning Zone", (November, 1993), HMM Associates, Inc.

"Indian Point Joint Information Center Procedures and Public Education Workplan"

New York State Radiological Emergency Preparedness Plan

EPA 400-R-92-001 (May 1992), "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX P
MAPS

1. ROCKLAND COUNTY PUBLIC INFORMATION BROCHURE MAP (CONTAINED IN THE "PLANNING FOR EMERGENCIES BOOKLET")

2. BERGEN COUNTY CONGREGATE CARE CENTERS/SCHOOL RECEPTION CENTERS MAP

(NOT USED)

APPENDIX Q
SPECIALIZED VEHICLE ASSIGNMENTS FOR MOBILITY-IMPAIRED INDIVIDUALS

This information is contained in each applicable agency's (Health Department, Mental Health Department, Special Facilities, Office of People with Disabilities, etc.) emergency response manual at the EOC. A list of mobility-impaired individuals is maintained by the Office of Fire and Emergency Services and is updated annually.

(NOT USED)

3. Non-Institutionalized Individuals (Stretcher)

ERPA	No. of Individuals	Veh. Required	Ambulance Corps Jurisdiction
30	2	Ambulance	Haverstraw
31	3	Ambulance	Haverstraw
32	2	Ambulance	Congers/ Valley Cottage
33	0	Ambulance	Congers
35	1	Ambulance	New City
36	1	Ambulance	Haverstraw

Source: Listing of Mobility-Impaired Individuals, 2000
(on file at EOC)
This information is updated annually.

(NOT USED)

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (Host Plan*)
A1-Item	a	Overall response organization identification	RC/BC-1: Sec. 2.0, 5.0 RC/BC-2: Sec. 2.0, 5.1, 5.2, 5.3
	b	Organizational concept of operations	RC/BC-2: Att. 1
	c	Organizational interrelation-ships-block diagram	RC/BC-2: Att. 1
	d	Identification of individual who is in charge	RC/BC-2: Sec. 2.0
	e	24-hr. response capability including communications	RC/BC-2: Sec. 5.1, 5.4
A2-Item	a	Specification of functions and responsibilities of key individuals	RC/BC-2: Att. 1
	b	Legal basis of authority	RC/BC-2: Sec. 6.0

* NOTE: The Bergen County Host Plan consists of 5 procedures that are part of the Rockland County Radiological Emergency Preparedness Plan.

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX FOR BERGEN COUNTY (N.J.) HOST PLAN* FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT RADIOLOGICAL EMERGENCY PREPAREDNESS TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (Host Plan*)
A3	Written agreements referring to concept of operations	RC/BC-2: Att. 2
A4	Provisions for 24-hr. operations/continuity of resources	RC/BC-2: Sec. 2.0, 5.4, Att. 1
C4	Identification of organizations/ assistance to be relied on	RC/BC-2: Sec. 5.2, 5.3
D3	Establishment of emergency classification scheme	RC/BC-1: Sec. 4.0, 5.1, 5.3 RC/BC-2: Sec. 4.0
D4	Provisions for emergency actions	RC/BC-1: Sec. 5.3 RC/BC-2: Sec. 5.4
E1	Establishment of notification procedures/verification of receipt	RC/BC-1: Sec. 5.1 RC/BC-2: Sec. 3.0, 4.0, 5.0
E2	Establishment of personnel alerting, notifying, and mobilizing procedures	RC/BC-1: Sec. 5.1 RC/BC-2: Sec. 3.0, 5.0

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (Host Plan*)
F1-Item	a	24-hr. primary and backup provision for notification and activation of local emergency network	RC/BC-2: Sec. 5.1, 5.2
	b	Primary and backup communications with contiguous state/local governments	RC/BC-1: Sec. 5.3 RC/BC-2: Sec. 5.2
	c	Primary and backup communications with federal organizations	N/A
	d	Primary and backup communications between nuclear facility, state/local EOCs and radiological monitoring teams	RC/BC-1: Sec. 5.3 RC/BC-2: Sec. 5.2
	e	Primary and backup alerting and activating of emergency personnel	RC/BC-1: Sec. 5.1 RC/BC-2: Sec. 5.1, 5.2, Att. 1
F2		Primary and backup communications link to medical support facilities	RC/BC-2: Sec. 5.4

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (Host Plan*)
F3	Periodic testing of communications system	RC/BC-2: Sec. 6.0 RC/BC-4: Sec. 5.4
H3	Establishment of EOC for response functions	RC/BC-1: Sec. 5.4, 5.5 RC/BC-2: Sec. 2.0, 5.3, 5.4, 5.5
H4	Provisions for timely activation and staffing facilities	RC/BC-1: Sec. 5.1, 5.2, 5.4 RC/BC-2: Sec. 5.1, 5.2, 5.3
H7	Provisions for offsite radiological monitoring equipment	N/A
H10	Provisions for equipment, inspection, inventory, operational check, calibration	RC/BC-3
H11	Identification of emergency equipment	RC/BC-2: Att. 4
J10-Item a	Maps showing evacuation routes, evacuation areas, relocation centers	RC/BC-2: Sec. 5.3, 5.4

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (Host Plan*)
	b	Maps showing population distribution by evacuation area	RC/BC-2: Sec. 5.3
	h	Designation of relocation centers in host areas 10 miles beyond EPZ boundary	RC/BC-2: Sec. 5.4, Att. 5
J12		Description of means for registering and monitoring evacuees within 12 hours at relocation centers in host areas	RC/BC-2: Att. 4
L3		Development of lists of medical facilities capable of providing medical support for any contaminated injured individual	RC/BC-2: Sec. 5.4
L4		Provisions to transport victims of radiological accidents to medical facilities	RC/BC-2: Sec. 5.4
N1-Item	a	Provisions for periodic exercises	RC/BC-4: Sec. 5.4, 5.5

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER		CRITERIA	LOCATION (Host Plan*)
	b	Provisions for exercise critique/varied scenarios	RC/BC-4: Sec. 5.5, 5.7
N2-Item	a	Provisions for communications drills	RC/BC-4: Sec. 5.4
	d	Provisions for radiological monitoring drills	RC/BC-4: Sec. 5.4
N3		Description of how exercises are carried out	RC/BC-4: Sec. 5.5, 5.6, 5.7
N4		Provisions for official observers/critique	RC/BC-4: Sec. 5.6, 5.7
N5		Provisions for implementing exercise corrective actions	RC/BC-4: Sec. 5.8
O1		Provisions for training individuals	RC/BC-4: Sec. 5.1, 5.2
	b	Provisions for training mutual mutual aid departments	N/A
O4-Item	c	Establishment of training programs for radiological personnel	RC/BC-4: Sec. 5.1

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (Host Plan*)
j	Establishment of training programs for communications personnel	RC/BC-4: Sec. 5.1
O5	Provisions for initial training and retraining	RC/BC-4: Sec. 5.1, 5.2
P1	Provisions for training individuals involved in planning effort	RC/BC-4: Sec. 5.1
P2	Identification of individual responsible for planning effort	RC/BC-5: Sec. 2.1, 5.3, 5.5
P3	Designation of Planning Coordinator	RC/BC-5: Sec. 5.5
P4	Provisions to update plan and agreements on annual basis	RC/BC-5: Sec. 2.0, 5.4
P5	Provisions to forward approved plans to appropriate individuals	RC/BC-5: Sec. 2.0, 5.1, 5.3
P6	Listing of support plans	RC/BC-2: Sec. 6.0

APPENDIX R

EVALUATION CRITERIA CROSS REFERENCE INDEX
FOR BERGEN COUNTY (N.J.) HOST PLAN*
FOR NRC/FEMA CONCURRENCE IN LOCAL GOVERNMENT
RADIOLOGICAL EMERGENCY PREPAREDNESS
TABLE 0654/REP - 1

EVALUATION CRITERIA

NUREG 0654/FEMA-REP-1

NUMBER	CRITERIA	LOCATION (Host Plan*)
P7	Procedures required to implement plan	N/A
P8	Specific table of contents	See Rockland County Plan
P10	Provisions for updating telephone numbers quarterly	RC/BC-5: Sec. 5.4

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX S
ELECTRONIC DOSIMETER OPERATING INSTRUCTIONS

SAIC MODEL PD-10i ELECTRONIC DOSIMETER OPERATING INSTRUCTIONS

1. Check the calibration sticker on the SAIC PD-10i dosimeter to verify that it has not expired.
2. Insert the battery (AA) if not already accomplished.

Note
The PD-i is in the idle mode whenever the battery is first installed. In the idle mode, the PD-10i display is blank.

3. To initiate operation, press the **Run** button. The display should initially indicate "mR" when the dosimeter is first turned on.

Note
The SAIC PD-10i should only be used in the "mR" mode.

4. If "mR" is not displayed, press the **MODE** button until "mR" appears in the display. The PD-10i is ready for use.

Caution
If the dose icon flashes during operation of the dosimeter, the total accumulated dose has exceeded the 1.0R alarm set point. Notify your supervisor.

5. If a low battery condition exists, the battery icon will flash to warn of 12-24 hours of remaining operation. Whenever a low battery condition exists, change the battery within 12 hours or notify your supervisor for assistance.

6. To turn the SAIC PD-10i off, remove the battery, wait 5 seconds and replace the battery.

RAD-60R ELECTRONIC DOSIMETER
OPERATING INSTRUCTIONS

1. Check the calibration sticker on the RAD-60R dosimeter to verify that it has not expired.
2. Insert the battery (AAA) if not already accomplished.
3. Turn on the RAD-60R by pressing and holding the push button. The dosimeter should beep and the display should appear within 5 seconds.
4. The display should initially indicate "mR" when the dosimeter is first turned on.

Note
The RAD-60R should only be used in the "mR" mode.

5. If "mR" is not displayed, press the push button until "mR" appears in the display. Set the mode by pressing and holding the button until a beep occurs.

Caution
Once the "mR" mode has been set, pressing and holding the button again will reset the dose to zero. This is to be avoided.

Caution
If the button is accidentally pushed, the mode may change. However, the dose will not be reset. If this occurs, simply change the mode back to "mR." Dose will only reset if the button is held.

6. If a low battery condition exists when the dosimeter is initially turned on, the display will indicate "Lob" and the battery icon will blink.

7. If a low battery condition occurs during normal operation, the battery icon will blink continuously and the audible alarm will beep once per hour.

8. Whenever a low battery condition exists, change the battery or notify your supervisor for assistance.

9. To turn the RAD-60R dosimeter off, press the push button until "off" is displayed. Hold the push button until a beep occurs then release the button and the display will go blank.

ROCKLAND COUNTY
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

APPENDIX T

TERRORISM AND OTHER SECURITY RELATED EVENTS

This appendix is intended to document changes to the general concept of operations for a response to an incident at the Indian Point Entergy Center (IPEC) involving security related events, such as a terrorist attack. Most security related procedures and policies for such a response are considered "law enforcement sensitive" information, or in the case of the plant, classified as "safeguards information". This detailed information is contained in classified planning documents. Those with a need to know have access to those plans and procedures.

This section of the radiological plan contains no sensitive information that would fall under either of those classifications. For that reason, the concept of operations described here must be very generalized and is intended only to document the major policies and procedures for responding to a security event at the plant.

1. IPEC Emergency Action Levels (EALs)

Emergency Action Levels are a methodology employed throughout the commercial nuclear power industry to identify specific events or symptoms that would signal to plant personnel that an emergency could be taking place. These levels identify a range of conditions that could give rise to an emergency requiring classification as an Unusual Event, Alert, Site Area Emergency or General Emergency.

Some of these incident initiators include security related events. For IPEC, Entergy has identified four EALs related to security issues that could result in emergency declarations. These include:

EAL # 8.1.1
There has been a bomb found; or attempted act of sabotage within the protected area; or information of a believable site threat has been received. This EAL poses no threat to the safety of the general public.

> Anticipated Plant Response Actions: Entergy will declare an Unusual Event, inform appropriate law enforcement agencies, as well as those agencies normally notified of an Unusual Event. This includes Westchester County.

EAL # 8.1.2
Unauthorized personnel have entered the protective area. This EAL poses no threat to the safety of the general public.

Anticipated Plant Response Actions: Entergy will declare an Alert, inform appropriate law enforcement agencies, as well as those agencies normally notified of an Alert. This includes Westchester County.

EAL # 8.1.3
Unauthorized personnel have entered the vital area of the plant. This condition, by itself, poses no immediate threat to the safety of the general public.

Anticipated Plant Response Actions: Entergy will declare a Site Area Emergency, inform appropriate law enforcement agencies, as well as those agencies normally notified of an Alert. This includes Westchester County.

EAL # 8.1.4
A security event has occurred which could lead to a loss of physical control of the plant.

Anticipated Plant Response Actions: Entergy will declare a General Emergency, inform appropriate law enforcement agencies, as well as those agencies normally notified of a General Emergency. This includes Westchester County. Plant personnel WILL recommend protective action.

There may be other EALs that could have security implications, but those listed here would have the most direct security consequences for Westchester County.

2. County Response Actions for a Security Event

When a Radiological Emergency Communications System (RECS) form is received by the county from IPEC, and it identifies one of these EALs as the emergency initiator, the county may take extra-ordinary response actions, beyond those described elsewhere in this plan for the respective emergency classification level. These may include, but are not limited to the following. Again, other law enforcement plans and procedures, including anti-terrorism plans, address details of law enforcement operations.

Note: A security-related event resulting in a radiological emergency classification will be treated as two separate events which will be closely coordinated. The radiological emergency response plans will be followed, as usual, and coordinated among the four counties.

The following information is specific to the radiological emergency response plan and supplements those other plans.

Unusual Event

For an Unusual Event emergency classification triggered by an IPEC security related problem, the county may initiate some response actions earlier than normal for a potential radiation emergency. Such actions might be warranted because of the increased public concern that may be generated by a security event, as well as increased potential for quick escalation to a more severe classification if the security concern impacts plant safety systems.

Based upon drill and exercise experience, as well as consultation with appropriate experts, the following actions may be taken earlier than would otherwise occur in accordance with procedures:

- A limited activation of the County EOC **may** be initiated, to include OFES, Public Safety, Health Department and Public Information representatives, at a minimum.

- The County Public Information function **will** be activated, and the State will activate the Joint Information Center (JIC) and Public Information DisasterLAN website. Appropriate law enforcement public information personnel should be requested to join the JIC.

- The Rockland County Executive will consult with staff and evaluate the need for other extra-ordinary measures.

Alert, Site Area Emergency or General Emergency

- Full activation of the County EOC **will** be initiated.

- The County Public Information function **will** be activated and it will be recommended that the State activate the Joint Information Center (JIC) and Public Information DisasterLAN website. Appropriate law enforcement public information personnel should be requested to join the JIC.

- The Rockland County Executive will consult with staff and evaluate the need for other extra-ordinary measures.

3. Notification Process

Notification of offsite response organizations for emergency declarations resulting from security related events will follow prescribed procedures as for any other emergency declaration using the RECs form. In addition, IPEC will notify the New York State Police.

4. Potential Communications Failures

In the event of a reported terrorist event at IPEC, the control rooms may be inaccessible, destroyed or under siege and offsite emergency notifications via the RECS line may not be possible.

Where such a condition is suspected or confirmed, an attempt should be made to contact either Westchester County and/or the Unit 2 or 3 control rooms at IPEC via commercial telephone/landline or by dispatching law enforcement personnel to the site to confirm the occurrence of an incident. If these attempts are unsuccessful, the county shall take response actions consistent with an Immediate General Emergency requiring immediate protective actions.

All County Warning Points shall be contacted and siren activation shall be coordinated and initiated. An EAS message shall be aired advising the public in the five (5) mile radius surrounding IPEC to take the protective actions of "shelter-in-place" and taking KI and to stay tuned for further instructions.

Depending upon the availability and timeliness of: 1) prevailing and forecast meteorological information, 2) radiological information and 3) plant condition information, evacuation of at least the two (2) mile radius and five (5) mile downwind area around IPEC shall be ordered immediately following coordination among the four county executives or their designees.

5. Command and Control

By mutual agreement, the New York State Police will assume a lead role for the law enforcement aspects of an event involving security-related matters. A State Police representative will serve as Incident Commander at or near the scene.

Coordination of radiological emergency response will remain the responsibility of the Rockland County Emergency Operations Center. The Rockland County Department of Public Safety Representative in the EOC will serve as the primary coordination point with any IPEC on-scene or near-scene Incident Command Post.

The law enforcement element of a security event at Indian Point will be closely coordinated with the radiological emergency response directed by EOC operations.

6. Public Information

As noted above, Rockland County's public information function may be activated earlier than normal for a security related event. This may be necessary to communicate the situation to the general public, provide emergency instructions; and facilitate a public response consistent with the hazard.

A Joint Information Center may be activated as early as an Unusual Event by the State and Entergy. If established, Rockland County will participate and coordinate its public information program with the JIC. A State Police Public Information Officer will also be requested to join the JIC. As other law enforcement agencies, such as the Federal Bureau of Investigation, join the Unified Command, they may also send representatives to the JIC.

A public information process has been established for security related events which assigns responsibility for the issuance of information about the security situation and law enforcement response to the State Police Public Information Officer.

Public information related to radiological emergency response will continue to be coordinated by the responsible county and state authorities, as well as Entergy. It is critical that the addition of the law enforcement element to the emergency response NOT delay the issuance of critical information to the public on radiological response. For this reason procedures, training, drills and exercises re-enforce this coordination effort and the segregation of law enforcement versus radiological public information.

(NOT USED)